



SIRIUS soft starter 200-480 V 63 A, 110-250 V AC Screw terminals  
Thermistor input

product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW52
manufacturer's article number	<div><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 500 V</li><li>• of circuit breaker usable at 400 V at inside-delta circuit</li><li>• of circuit breaker usable at 500 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></div>
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	<div><ul style="list-style-type: none"><li>• CE marking</li><li>• UL approval</li><li>• CSA approval</li></ul></div>
product component is supported	<div><ul style="list-style-type: none"><li>• HMI-Standard</li><li>• HMI-High Feature</li></ul></div>
product feature integrated bypass contact system	







3RW5980-0HS00
3RW5980-0HF00
3RW5980-0CS00
3RW5980-0CP00
3RW5980-0CT00
3RW5980-0CR00
3RW5980-0CE00
3VA2163-7MN32-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10
3VA2163-7MN32-0AA0: Type of coordination 1, Iq = 20 kA, CLASS 10
3VA2110-7MN32-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10
3VA2110-7MN32-0AA0: Type of coordination 1, Iq = 20 kA, CLASS 10
3NA3830-6: Type of coordination 1, Iq = 65 kA
3NA3830-6: Type of coordination 1, Iq = 65 kA
3NE1022-0: Type of coordination 2, Iq = 65 kA
3NE8024-1: Type of coordination 2, Iq = 65 kA

<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>	
• for main current circuit	100 ms
• 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 00:00:00
<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 Klaxon / 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	63 A
• at 50 °C rated value	56 A
• at 60 °C rated value	51 A
<b>operational current at inside-delta circuit</b>	
• at 40 °C rated value	109 A
• at 50 °C rated value	96 A
• at 60 °C rated value	87.5 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	18.5 kW
• at 230 V at inside-delta circuit at 40 °C rated value	30 kW
• at 400 V at 40 °C rated value	30 kW
• at 400 V at inside-delta circuit at 40 °C rated value	55 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	25.5 A
• at rotary coding switch on switch position 2	28 A
• at rotary coding switch on switch position 3	30.5 A
• at rotary coding switch on switch position 4	33 A
• at rotary coding switch on switch position 5	35.5 A
• at rotary coding switch on switch position 6	38 A
• at rotary coding switch on switch position 7	40.5 A
• at rotary coding switch on switch position 8	43 A
• at rotary coding switch on switch position 9	45.5 A
• at rotary coding switch on switch position 10	48 A
• at rotary coding switch on switch position 11	50.5 A
• at rotary coding switch on switch position 12	53 A
• at rotary coding switch on switch position 13	55.5 A
• at rotary coding switch on switch position 14	58 A
• at rotary coding switch on switch position 15	60.5 A
• at rotary coding switch on switch position 16	63 A
• minimum	25.5 A
<b>adjustable motor current</b>	
• for inside-delta circuit at rotary coding switch on switch position 1	44.2 A
• for inside-delta circuit at rotary coding switch on switch position 2	48.5 A
• for inside-delta circuit at rotary coding switch on switch position 3	52.8 A
• for inside-delta circuit at rotary coding switch on switch position 4	57.2 A
• for inside-delta circuit at rotary coding switch on switch position 5	61.5 A
• for inside-delta circuit at rotary coding switch on switch position 6	65.8 A
• for inside-delta circuit at rotary coding switch on switch position 7	70.1 A
• for inside-delta circuit at rotary coding switch on switch position 8	74.5 A
• for inside-delta circuit at rotary coding switch on switch position 9	78.8 A
• for inside-delta circuit at rotary coding switch on switch position 10	83.1 A
• for inside-delta circuit at rotary coding switch on switch position 11	87.5 A
• for inside-delta circuit at rotary coding switch on switch position 12	91.8 A
• for inside-delta circuit at rotary coding switch on switch position 13	96.1 A
• for inside-delta circuit at rotary coding switch on switch position 14	100 A
• for inside-delta circuit at rotary coding switch on switch position 15	105 A
• for inside-delta circuit at rotary coding switch on switch position 16	109 A

<ul style="list-style-type: none"> <li>• at inside-delta circuit minimum</li> </ul>	44.2 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> <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>	31 W 29 W 27 W
<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>	882 W 744 W 659 W
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	AC
<b>control supply voltage at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	110 ... 250 V 110 ... 250 V
<b>relative negative tolerance of the control supply voltage at AC at 50 Hz</b>	-15 %
<b>relative positive tolerance of the control supply voltage at AC at 50 Hz</b>	10 %
<b>relative negative tolerance of the control supply voltage at AC at 60 Hz</b>	-15 %
<b>relative positive tolerance of the control supply voltage at AC at 60 Hz</b>	10 %
<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 current in standby mode rated value</b>	30 mA
<b>holding current in bypass operation rated value</b>	75 mA
<b>locked-rotor current at close of bypass contact maximum</b>	2.5 A
<b>inrush current peak at application of control supply voltage maximum</b>	12.2 A
<b>duration of inrush current peak at application of control supply voltage</b>	2.2 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 inputs for thermistor connection</b>	1; Type A PTC or Klixon / Thermoclick
<b>number of digital outputs</b> <ul style="list-style-type: none"> <li>• not parameterizable</li> </ul>	3 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>	+/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface
<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> </ul>	10 mm 0 mm 100 mm

<ul style="list-style-type: none"> <li>• downwards</li> </ul>	75 mm
<ul style="list-style-type: none"> <li>• at the side</li> </ul>	5 mm
<b>weight without packaging</b>	5.6 kg
<b>Connections/ Terminals</b>	
<b>type of electrical connection</b> <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for control circuit</li> </ul>	box terminal screw-type 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 150 m 250 m
<b>type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• for main contacts for box terminal using the front clamping point solid</li> <li>• for main contacts for box terminal using the front clamping point finely stranded with core end processing</li> <li>• for main contacts for box terminal using the front clamping point stranded</li> <li>• at AWG cables for main contacts for box terminal using the front clamping point</li> <li>• for main contacts for box terminal using the back clamping point solid</li> <li>• at AWG cables for main contacts for box terminal using the back clamping point</li> <li>• for main contacts for box terminal using both clamping points solid</li> <li>• for main contacts for box terminal using both clamping points finely stranded with core end processing</li> <li>• for main contacts for box terminal using both clamping points stranded</li> <li>• for main contacts for box terminal using the back clamping point finely stranded with core end processing</li> <li>• for main contacts for box terminal using the back clamping point stranded</li> </ul>	1x (2.5 ... 16 mm <sup>2</sup> ) 1x (2.5 ... 50 mm <sup>2</sup> ) 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> )
<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> ) 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 AC maximum</li> </ul>	800 m 100 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>	4.5 ... 6 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>	40 ... 53 lbf·in 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 -40 ... +80 °C
<b>environmental category</b> <ul style="list-style-type: none"> <li>• during operation 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

<ul style="list-style-type: none"><li>during storage acc. to IEC 60721</li></ul>	1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4	
<ul style="list-style-type: none"><li>during transport acc. to IEC 60721</li></ul>	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"><li>PROFINET standard</li></ul>	Yes	
<ul style="list-style-type: none"><li>EtherNet/IP</li></ul>	Yes	
<ul style="list-style-type: none"><li>Modbus RTU</li></ul>	Yes	
<ul style="list-style-type: none"><li>Modbus TCP</li></ul>	Yes	
<ul style="list-style-type: none"><li>PROFIBUS</li></ul>	Yes	
UL/CSA ratings		
manufacturer's article number		
<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 inside-delta circuit according to UL</li></ul></li></ul>	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 125 A; Iq = 10 kA	
	Siemens type: 3VA51, max. 125 A; Iq max = 65 kA	
	Siemens type: 3VA51, max. 125 A; Iq = 10 kA	
	Siemens type: 3VA51, max. 125 A; Iq max = 65 kA	
	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 125 A; Iq = 10 kA	
	Siemens type: 3VA51, max. 125 A; Iq = 10 kA	
<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. 200 A; Iq = 10 kA	
	Type: Class J / L, max. 225 A; Iq = 100 kA	
	Type: Class RK5 / K5, max. 200 A; Iq = 10 kA	
	Type: Class J / L, max. 225 A; Iq = 100 kA	
operating power [hp] for 3-phase motors		
<ul style="list-style-type: none"><li>at 200/208 V at 50 °C rated value</li></ul>	15 hp	
<ul style="list-style-type: none"><li>at 220/230 V at 50 °C rated value</li></ul>	20 hp	
<ul style="list-style-type: none"><li>at 460/480 V at 50 °C rated value</li></ul>	40 hp	
<ul style="list-style-type: none"><li>at 200/208 V at inside-delta circuit at 50 °C rated value</li></ul>	30 hp	
<ul style="list-style-type: none"><li>at 220/230 V at inside-delta circuit at 50 °C rated value</li></ul>	30 hp	
<ul style="list-style-type: none"><li>at 460/480 V at inside-delta circuit at 50 °C rated value</li></ul>	75 hp	
contact rating of auxiliary contacts according to UL	R300-B300	
Safety related data		
protection class IP on the front acc. to IEC 60529	IP00; IP20 with cover	
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front with cover	
electromagnetic compatibility	in accordance with IEC 60947-4-2	
Certificates/ approvals		
General Product Approval	EMC	Declaration of Conformity
		
CSA	CCC	UL
		
	RCM	EG-Konf.
Test Certificates	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=3RW5225-1TC14>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5225-1TC14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5225-1TC14>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5225-1TC14&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5225-1TC14&lang=en)

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

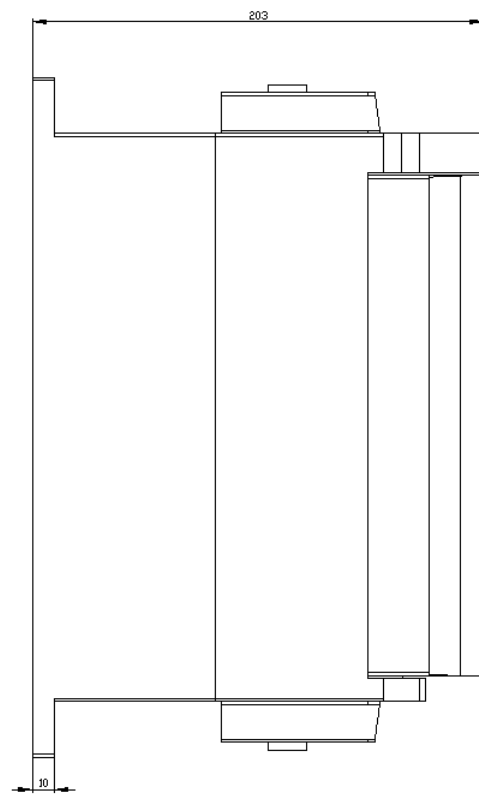
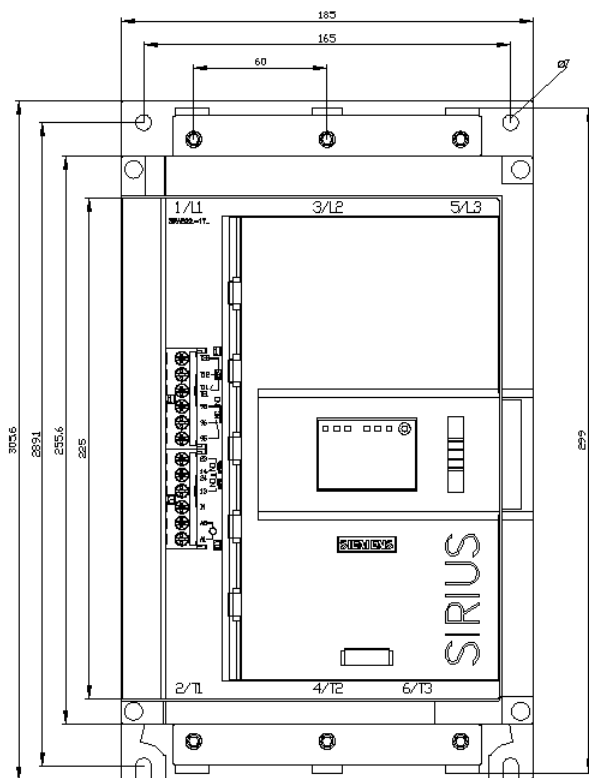
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5225-1TC14/char>

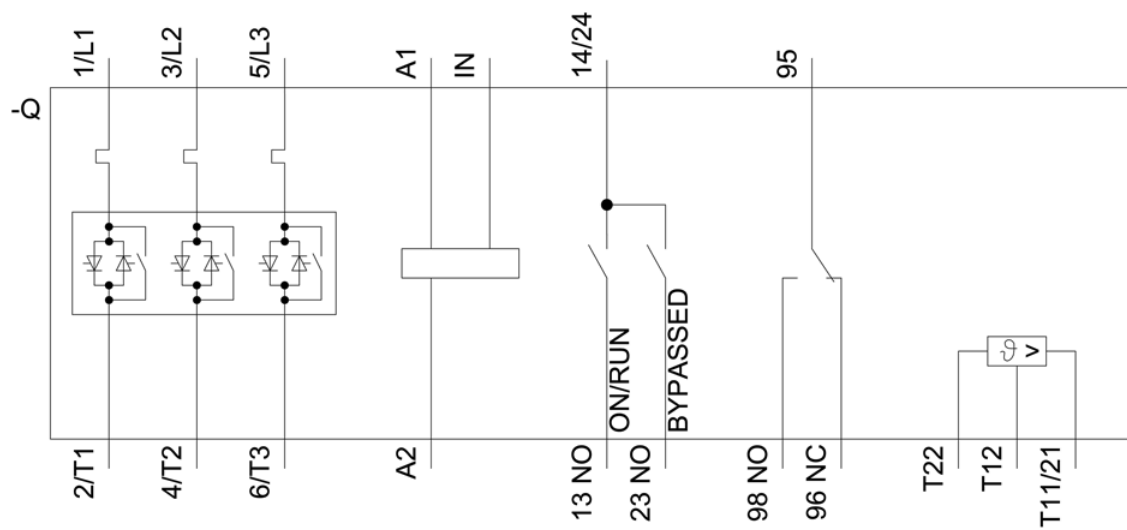
**Characteristic: Installation altitude**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5225-1TC14&objecttype=14&gridview=view1>

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

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





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