



SIRIUS soft starter 200-480 V 47 A, 110-250 V AC spring-type terminals  
Thermistor input

**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](#)

[3RV2032-4JA10](#); Type of coordination 1, I<sub>q</sub> = 65 kA, CLASS 10

[3RV2032-4JA10](#); Type of coordination 1, I<sub>q</sub> = 10 kA, CLASS 10

[3RV2032-4RA10](#); Type of coordination 1, I<sub>q</sub> = 65 kA, CLASS 10

[3RV2032-4RA10](#); Type of coordination 1, I<sub>q</sub> = 10 kA, CLASS 10

[3NA3824-6](#); Type of coordination 1, I<sub>q</sub> = 65 kA

[3NA3824-6](#); Type of coordination 1, I<sub>q</sub> = 65 kA

[3NE1021-2](#); 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**

<b>starting voltage [%]</b>	30 ... 100 %
<b>stopping voltage [%]</b>	50 %; non-adjustable
<b>start-up ramp time of soft starter</b>	0 ... 20 s
<b>current limiting value [%] adjustable</b>	130 ... 700 %
<b>certificate of suitability</b>	
• CE marking	Yes
• UL approval	Yes
• CSA approval	Yes
<b>product component</b>	
• HMI-High Feature	No
• is supported HMI-Standard	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 (default) / 10E / 20E; acc. to IEC 60947-4-2
<b>buffering time in the event of power failure</b>	

<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>	1 400 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> <li>• ramp-down (soft stop)</li> <li>• Soft Torque</li> <li>• adjustable current limitation</li> <li>• pump ramp down</li> <li>• intrinsic device protection</li> <li>• motor overload protection</li> </ul>	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)
	Yes; Type A PTC or Klixon / Thermoclick
<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>• error logbook</li> <li>• via software parameterizable</li> <li>• via software configurable</li> <li>• <b>PROFInergy</b></li> </ul>	Yes
	Yes
	Yes
	Yes
	Yes; By turning off the control supply voltage
	Yes
	Yes; Only in conjunction with special accessories
	Yes; Only in conjunction with special accessories
	No
	Yes
	Yes; in connection with the PROFINET Standard communication module
	Yes
	Yes
	No
	No

## Power Electronics

<b>operational current</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>	47 A
	41.6 A
	36.2 A
<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>	81.4 A
	72 A
	62.7 A
<b>operating voltage</b>	
<ul style="list-style-type: none"> <li>• rated value</li> <li>• at inside-delta circuit rated value</li> </ul>	200 ... 480 V
	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>	
<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> </ul>	11 kW
	22 kW
	22 kW
	45 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	20 A
• at rotary coding switch on switch position 2	21.8 A
• at rotary coding switch on switch position 3	23.6 A
• at rotary coding switch on switch position 4	25.4 A
• at rotary coding switch on switch position 5	27.2 A
• at rotary coding switch on switch position 6	29 A
• at rotary coding switch on switch position 7	30.8 A
• at rotary coding switch on switch position 8	32.6 A
• at rotary coding switch on switch position 9	34.4 A
• at rotary coding switch on switch position 10	36.2 A
• at rotary coding switch on switch position 11	38 A
• at rotary coding switch on switch position 12	39.8 A
• at rotary coding switch on switch position 13	41.6 A
• at rotary coding switch on switch position 14	43.4 A
• at rotary coding switch on switch position 15	45.2 A
• at rotary coding switch on switch position 16	47 A
• minimum	20 A
<b>adjustable motor current</b>	
• for inside-delta circuit at rotary coding switch on switch position 1	34.6 A
• for inside-delta circuit at rotary coding switch on switch position 2	37.8 A
• for inside-delta circuit at rotary coding switch on switch position 3	40.9 A
• for inside-delta circuit at rotary coding switch on switch position 4	44 A
• for inside-delta circuit at rotary coding switch on switch position 5	47.1 A
• for inside-delta circuit at rotary coding switch on switch position 6	50.2 A
• for inside-delta circuit at rotary coding switch on switch position 7	53.3 A
• for inside-delta circuit at rotary coding switch on switch position 8	56.5 A
• for inside-delta circuit at rotary coding switch on switch position 9	59.6 A
• for inside-delta circuit at rotary coding switch on switch position 10	62.7 A
• for inside-delta circuit at rotary coding switch on switch position 11	65.8 A
• for inside-delta circuit at rotary coding switch on switch position 12	68.9 A
• for inside-delta circuit at rotary coding switch on switch position 13	72.1 A
• for inside-delta circuit at rotary coding switch on switch position 14	75.2 A
• for inside-delta circuit at rotary coding switch on switch position 15	78.3 A
• for inside-delta circuit at rotary coding switch on switch position 16	81.4 A
• at inside-delta circuit minimum	34.6 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	26 W
• at 50 °C after startup	24 W
• at 60 °C after startup	23 W
<b>power loss [W] at AC at current limitation 350 %</b>	
• at 40 °C during startup	606 W
• at 50 °C during startup	522 W
• at 60 °C during startup	438 W

#### Control circuit/ Control

<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
<b>relative negative tolerance of the control supply voltage at AC at 50 Hz</b>	110 ... 250 V
<b>relative positive tolerance of the control supply voltage at AC at 50 Hz</b>	-15 %
<b>relative negative tolerance of the control supply voltage at AC at 60 Hz</b>	10 %
<b>relative positive tolerance of the control supply voltage at AC at 60 Hz</b>	-15 %
<b>control supply voltage frequency</b>	10 %
<b>relative negative tolerance of the control supply voltage frequency</b>	50 ... 60 Hz
<b>relative positive tolerance of the control supply voltage frequency</b>	-10 %
<b>control supply current in standby mode rated value</b>	10 %
<b>holding current in bypass operation rated value</b>	30 mA
<b>inrush current peak at application of control supply voltage maximum</b>	75 mA
<b>duration of inrush current peak at application of control supply voltage</b>	12.2 A
<b>design of the overvoltage protection</b>	2.2 ms
<b>design of short-circuit protection for control circuit</b>	Varistor
	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>	1
<b>number of digital outputs</b>	3
<ul style="list-style-type: none"> <li>• not parameterizable</li> </ul>	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

#### Installation/ mounting/ dimensions

<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> <li>• downwards</li> <li>• at the side</li> </ul>	10 mm
	0 mm
	100 mm
	75 mm
	5 mm
<b>weight without packaging</b>	5.2 kg

#### Connections/ Terminals

<b>type of electrical connection</b>	box terminal
<ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for control circuit</li> </ul>	spring-loaded 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</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)

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

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>)

**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

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

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

2x (24 ... 16)

2x (24 ... 16)

**wire length**

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

800 m

100 m

**tightening torque**

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

4.5 ... 6 N·m

0.8 ... 1.2 N·m

**tightening torque [lbf·in]**

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

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
- during storage and transport

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

-40 ... +80 °C

**environmental category**

- during operation according to IEC 60721
- during storage according to IEC 60721
- during transport according 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**

- 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
- 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

Siemens type: 3RV2742, max. 70 A or 3VA51, max. 90 A; Iq = 5 kA  
Siemens type: 3VA51, max. 60 A; Iq max = 65 kA  
Siemens type: 3VA51, max. 90 A; Iq = 5 kA  
Siemens type: 3VA51, max. 60 A; Iq max = 65 kA  
Siemens type: 3RV2742, max. 70 A or 3VA51, max. 90 A; Iq = 5 kA

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 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

Siemens type: 3VA51, max. 90 A; Iq = 5 kA

Type: Class RK5 / K5, max. 175 A; Iq = 5 kA

Type: Class J / L, max. 175 A; Iq = 100 kA

Type: Class RK5 / K5, max. 175 A; Iq = 5 kA

Type: Class J / L, max. 175 A; Iq = 100 kA

10 hp

10 hp

30 hp

20 hp

25 hp

50 hp

R300-B300

**contact rating of auxiliary contacts according to UL**

**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=3RW5224-3TC14>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5224-3TC14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5224-3TC14>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5224-3TC14&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5224-3TC14&lang=en)

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

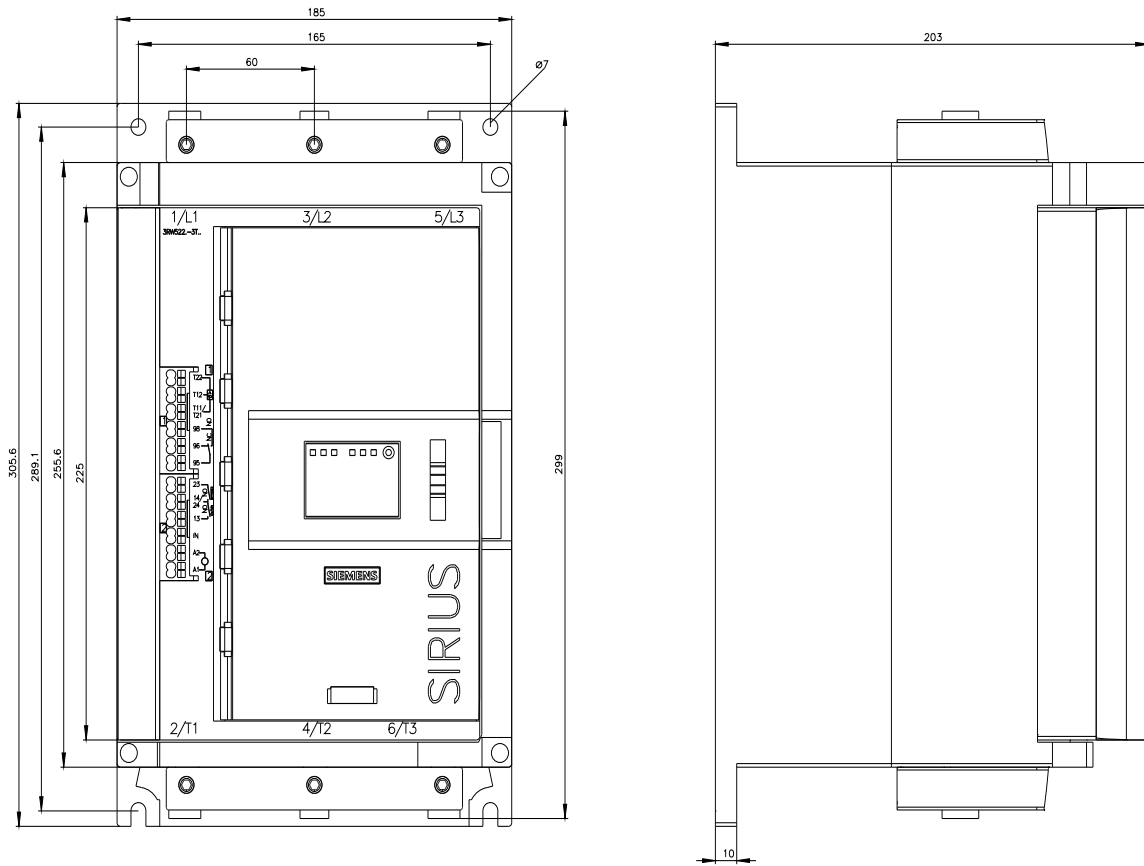
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5224-3TC14/char>

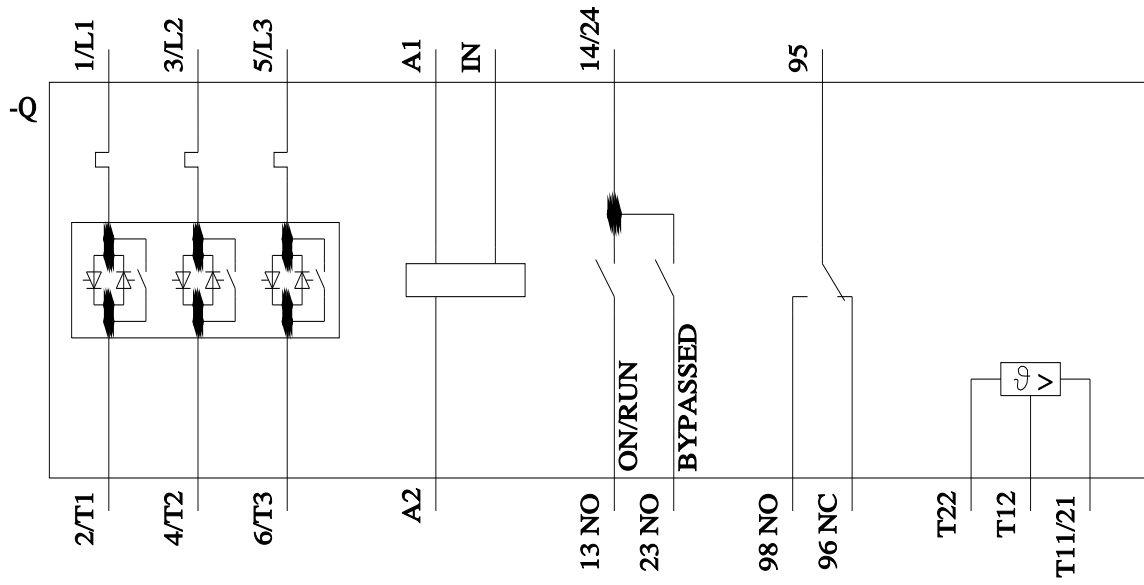
**Characteristic: Installation altitude**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mfb=3RW5224-3TC14&objecttype=14&gridview=view1>

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

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





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