

SIRIUS soft starter 200-480 V 210 A, 110-250 V AC spring-type terminals Analog output



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>	3RW50
<b>Manufacturer's article number</b>	<ul style="list-style-type: none"> <li>• of HMI module usable <a href="#">3RW5980-0HS01</a></li> <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 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="#">3VA2440-7MN32-0AA0; Type of assignment 1, Iq = 65 kA</a></li> <li>• of circuit breaker usable at 500 V <a href="#">3VA2440-7MN32-0AA0; Type of assignment 1, Iq = 65 kA</a></li> <li>• of the gG fuse usable up to 690 V <a href="#">2x3NA3354-6; Type of coordination 1, Iq = 65 kA</a></li> <li>• of full range R fuse link for semiconductor protection usable up to 690 V <a href="#">3NE1 230-2; Type of coordination 2, Iq = 65 kA</a></li> </ul>

- of back-up R fuse link for semiconductor protection usable up to 690 V
- of line contactor usable up to 480 V
- of line contactor usable up to 690 V

[3NE3 333; Type of coordination 2, I<sub>q</sub> = 65 kA](#)

3RT1064

3RT1064

#### General technical data

<b>Starting voltage [%]</b>	30 ... 100 %
<b>Stopping voltage [%]</b>	50 ... 50 %
<b>Start-up ramp time of soft starter</b>	0 ... 20 s
<b>Stopping time of soft starter</b>	0 ... 20 s
<b>Current limiting value [%] adjustable</b>	130 ... 700 %
<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>	
• 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>	2
<b>Trip class</b>	CLASS 10A / 10E (preset) / 20E; acc. to IEC 60947-4-2
<b>Recovery time</b>	300 s
<b>Insulation voltage</b>	
• rated value	600 V
<b>Degree of pollution</b>	3, acc. to IEC 60947-4-2
<b>Impulse voltage rated value</b>	6 V
<b>Blocking voltage of the thyristor maximum</b>	1 600 V
<b>Service factor</b>	1
<b>Protection class IP</b>	IP00; IP20 with additional terminal covers for vertical touching from the front
<b>Reference code acc. to DIN EN 81346-2</b>	Q
<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; Electronic motor overload protection
• Evaluation of thermistor motor protection	No
• Auto-reset	Yes
• Manual RESET	Yes

- remote reset
- communication function
- operating measured value display
- error logbook
- via software parameterizable
- via software configurable
- PROFINET
- voltage ramp
- torque control
- analog output

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

No

Yes; 4 ... 20 mA (default) / 0 ... 10 V (parameterizable with High Feature HMI)

## Power Electronics

<b>Operating current</b>	
• at 40 °C rated value	210 A
• at 50 °C rated value	186 A
• at 60 °C rated value	170 A
<b>Operating voltage</b>	
• 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>Operating power for three-phase motors</b>	
• at 230 V at 40 °C rated value	55 kW
• at 400 V at 40 °C rated value	110 kW
• at 500 V at 40 °C rated value	132 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 encoding switch on switch position 1	90 A
• at rotary encoding switch on switch position 2	98 A
• at rotary encoding switch on switch position 3	106 A
• at rotary encoding switch on switch position 4	114 A
• at rotary encoding switch on switch position 5	122 A
• at rotary encoding switch on switch position 6	130 A
• at rotary encoding switch on switch position 7	138 A
• at rotary encoding switch on switch position 8	146 A
• at rotary encoding switch on switch position 9	154 A
• at rotary encoding switch on switch position 10	162 A
• at rotary encoding switch on switch position 11	170 A

<ul style="list-style-type: none"> <li>• at rotary encoding switch on switch position 12</li> <li>• at rotary encoding switch on switch position 13</li> <li>• at rotary encoding switch on switch position 14</li> <li>• at rotary encoding switch on switch position 15</li> <li>• at rotary encoding switch on switch position 16</li> <li>• minimum</li> </ul>	<p>178 A</p> <p>186 A</p> <p>194 A</p> <p>202 A</p> <p>210 A</p> <p>90 A</p>
<b>Minimum load [%]</b>	15 %; Relative to smallest settable le
<b>Power loss [W] for rated value of the current at AC</b>	
<ul style="list-style-type: none"> <li>• at 40 °C to power-up</li> <li>• at 50 °C to power-up</li> <li>• at 60 °C to power-up</li> </ul>	<p>16 W</p> <p>13 W</p> <p>11 W</p>
<b>Power loss [W] at AC at AC</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>	<p>2 237 W</p> <p>1 867 W</p> <p>1 637 W</p>
<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
<b>Control supply voltage at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>	<p>110 ... 250 V</p> <p>110 ... 250 V</p>
<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 the by-pass mode operating rated value</b>	105 mA
<b>Starting current at close of by-pass contact maximum</b>	2.2 A
<b>Inrush current peak at connect of control supply voltage maximum</b>	12.2 A
<b>Duration of inrush current peak at connect 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
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### Inputs/ Outputs

<b>Number of digital inputs</b>	1
<b>Number of inputs for thermistor connection</b>	0
<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

### 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>Mounting type</b>	screw fixing
<b>Height</b>	230 mm
<b>Width</b>	160 mm
<b>Depth</b>	282 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>Installation altitude at height above sea level maximum</b>	5 000 m; Derating as of 1000 m, see manual
<b>Weight without packaging</b>	7.3 kg

### Connections/ Terminals

<b>Type of electrical connection</b>	
• for main current circuit	busbar connection
• for control circuit	spring-loaded terminals
<b>Width of connection bar maximum</b>	45 mm
<b>Type of connectable conductor cross-sections</b>	
• for main contacts for box terminal using the front clamping point solid	95 ... 300 mm <sup>2</sup>
• for main contacts for box terminal using the front clamping point finely stranded with core end processing	70 ... 240 mm <sup>2</sup>
• for main contacts for box terminal using the front clamping point finely stranded without core end processing	70 ... 240 mm <sup>2</sup>
• for main contacts for box terminal using the front clamping point stranded	95 ... 300 mm <sup>2</sup>

<ul style="list-style-type: none"> <li>• at AWG conductors 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 conductors 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 finely stranded without 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 finely stranded without core end processing</li> <li>• for main contacts for box terminal using the back clamping point stranded</li> </ul>	<p>3/0 ... 600 kcmil</p> <p>120 ... 240 mm<sup>2</sup></p> <p>250 ... 500 kcmil</p> <p>min. 2x 70 mm<sup>2</sup>, max. 2x 240 mm<sup>2</sup></p> <p>min. 2x 50 mm<sup>2</sup>, max. 2x 185 mm<sup>2</sup></p> <p>min. 2x 50 mm<sup>2</sup>, max. 2x 185 mm<sup>2</sup></p> <p>min. 2x 70 mm<sup>2</sup>, max. 2x 240 mm<sup>2</sup></p> <p>120 ... 185 mm<sup>2</sup></p> <p>120 ... 185 mm<sup>2</sup></p> <p>120 ... 240 mm<sup>2</sup></p>
<p><b>Type of connectable conductor cross-sections</b></p> <ul style="list-style-type: none"> <li>• at AWG conductors for main current circuit solid</li> <li>• for DIN cable lug for main contacts stranded</li> <li>• for DIN cable lug for main contacts finely stranded</li> </ul>	<p>2/0 ... 500 kcmil</p> <p>50 ... 240 mm<sup>2</sup></p> <p>70 ... 240 mm<sup>2</sup></p>
<p><b>Type of connectable conductor cross-sections</b></p> <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> <li>• at AWG conductors for control circuit finely stranded with core end processing</li> </ul>	<p>2x (0.25 ... 1.5 mm<sup>2</sup>)</p> <p>2x (0.25 ... 1.5 mm<sup>2</sup>)</p> <p>2x (24 ... 16)</p> <p>2x (24 ... 16)</p>
<p><b>Wire length</b></p> <ul style="list-style-type: none"> <li>• between soft starter and motor maximum</li> <li>• at the digital inputs at AC maximum</li> </ul>	<p>800 m</p> <p>1 000 m</p>
<p><b>Tightening torque</b></p> <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>	<p>14 ... 24 N·m</p> <p>0.8 ... 1.2 N·m</p>
<p><b>Tightening torque [lbf·in]</b></p>	

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

124 ... 210 lbf-in

7 ... 10.3 lbf-in

## Ambient conditions

### 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 acc. 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 acc. to IEC 60721

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

- during transport acc. 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 the fuse

— usable for Standard Faults up to 575/600 V according to UL

Type: Class L, max. 700 A; I<sub>q</sub> = 10 kA

— usable for High Faults up to 575/600 V according to UL

Type: Class L, max. 700 A; I<sub>q</sub> = 100 kA

### Operating power [hp] for three-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

40 hp

50 hp

100 hp

125 hp

## ATEX

### Certificate of suitability

- ATEX
- IECEx

Yes

Yes

### Hardware fault tolerance acc. to IEC 61508 relating to ATEX

0


### PFDavg with low demand rate acc. to IEC 61508 relating to ATEX

0.09

PFHD with high demand rate acc. to EN 62061 relating to ATEX	0.000009 1/h
Safety Integrity Level (SIL) acc. to IEC 61508 relating to ATEX	SIL1
T1 value for proof test interval or service life acc. to IEC 61508 relating to ATEX	3 y

### Certificates/ approvals

General Product Approval	For use in hazardous locations
 CCC  CSA  UL	 EAC  IECEX  ATEX

Declaration of Conformity	Test Certificates	other
 EG-Konf.	<a href="#">Miscellaneous</a> <a href="#">Type Test Certificates/Test Report</a>	<a href="#">Confirmation</a>

### 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=3RW5072-2AB14>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5072-2AB14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5072-2AB14>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5072-2AB14&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5072-2AB14&lang=en)

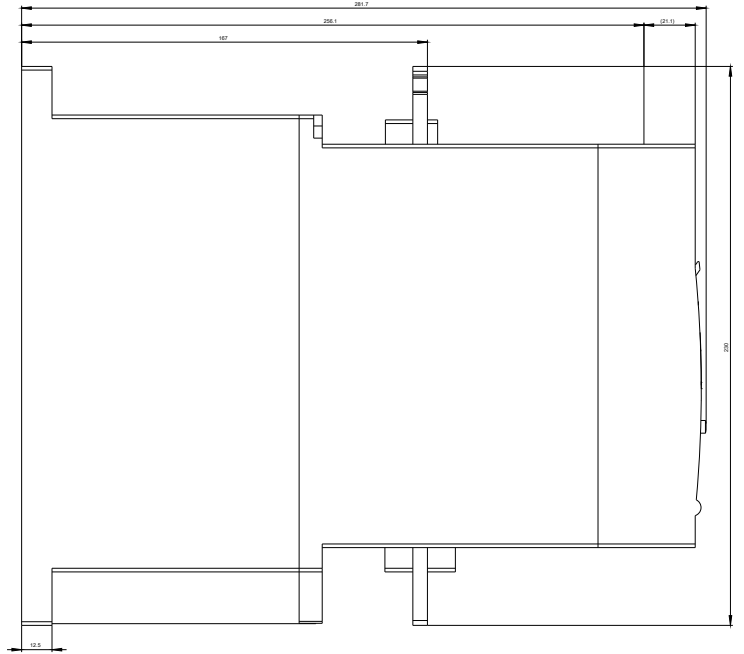
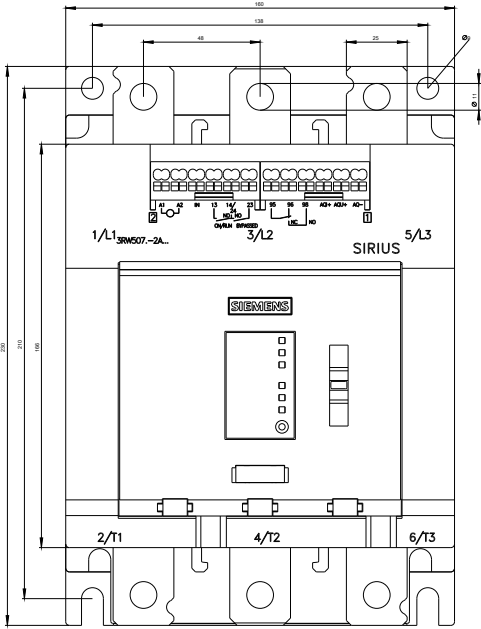
**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**

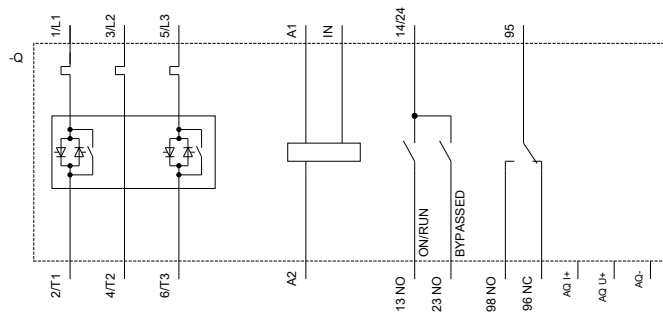
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5072-2AB14/char>

**Characteristic: Installation altitude**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5072-2AB14&objecttype=14&gridview=view1>







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