



Figure similar

SIRIUS soft starter 200-480 V 570 A, 110-250 V AC, Screw terminals Fail-safe

**product brand name**

**product category**

**product designation**

**product type designation**

**manufacturer's article number**

- of high feature HMI module usable
- of communication module PROFINET standard usable
- of communication module PROFINET high-feature 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

Failsafe soft starters

3RW55

[3RW5980-0HF00](#)

[3RW5980-0CS00](#)

[3RW5950-0CH00](#)

[3RW5980-0CP00](#)

[3RW5980-0CT00](#)

[3RW5980-0CR00](#)

[3RW5980-0CE00](#)

[3VA2580-6HN32-0AA0](#); Type of coordination 1, I<sub>q</sub> = 65 kA, CLASS 10

[3VA2580-6HN32-0AA0](#); Type of coordination 1, I<sub>q</sub> = 65 kA, CLASS 10

[3VA2510-6HN32-0AA0](#); Type of coordination 1, I<sub>q</sub> = 65 kA, CLASS 10

[3VA2510-6HN32-0AA0](#); Type of coordination 1, I<sub>q</sub> = 65 kA, CLASS 10

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

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

[3NE1437-2](#); Type of coordination 2, I<sub>q</sub> = 65 kA

[3NC3342-1U](#); Type of coordination 2, I<sub>q</sub> = 65 kA

## General technical data

**starting voltage [%]**

20 ... 100 %

**stopping voltage [%]**

50 %; non-adjustable

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

0 ... 360 s

**ramp-down time of soft starter**

0 ... 360 s

**start torque [%]**

10 ... 100 %

**stopping torque [%]**

10 ... 100 %

**torque limitation [%]**

20 ... 200 %

**current limiting value [%] adjustable**

125 ... 800 %

**breakaway voltage [%] adjustable**

40 ... 100 %

**breakaway time adjustable**

0 ... 2 s

**number of parameter sets**

3

**accuracy class according to IEC 61557-12**

5 %

**certificate of suitability**

- CE marking

Yes

<ul style="list-style-type: none"> <li>• UL approval</li> <li>• CSA approval</li> </ul>	Yes
<b>product component</b>	Yes
<ul style="list-style-type: none"> <li>• HMI-High Feature</li> <li>• is supported HMI-High Feature</li> </ul>	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>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>idle time adjustable</b>	100 ms
<b>insulation voltage rated value</b>	0 ... 255 s
<b>degree of pollution</b>	480 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>	1.15
<b>maximum permissible voltage for safe isolation</b>	6 kV
<ul style="list-style-type: none"> <li>• between main and auxiliary circuit</li> </ul>	480 V; does not apply for thermistor connection
<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>recovery time after overload trip adjustable</b>	60 ... 1 800 s
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>	11/22/2019
<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>	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes; Full motor protection (thermistor motor protection and electronic motor overload protection) / When using the motor overload protection according to ATEX, an upstream contactor is required in inside-delta circuit.
	Yes; Type A PTC or Klixon / Thermoclick
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	No
	Yes; in connection with the PROFINET Standard and PROFINET High-Feature communication modules
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes; 4 ... 20 mA (default) / 0 ... 10 V
<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-loaded terminal</li> <li>• <b>PROFInergy</b></li> <li>• <b>firmware update</b></li> <li>• <b>removable terminal for control circuit</b></li> <li>• voltage ramp</li> <li>• torque control</li> <li>• combined braking</li> <li>• analog output</li> </ul>	

• 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

### operational current

• at 40 °C rated value	570 A
• at 40 °C rated value minimum	114 A
• at 50 °C rated value	504 A
• at 60 °C rated value	460 A

### operational current at inside-delta circuit

• at 40 °C rated value	987 A
• at 50 °C rated value	873 A
• at 60 °C rated value	796 A

### operating voltage

• rated value	200 ... 480 V
• at inside-delta circuit rated value	200 ... 480 V

### relative negative tolerance of the operating voltage

-15 %

### relative positive tolerance of the operating voltage

10 %

### relative negative tolerance of the operating voltage at inside-delta circuit

-15 %

### relative positive tolerance of the operating voltage at inside-delta circuit

10 %

### operating power for 3-phase motors

• at 230 V at 40 °C rated value	160 kW
• at 230 V at inside-delta circuit at 40 °C rated value	315 kW
• at 400 V at 40 °C rated value	315 kW
• at 400 V at inside-delta circuit at 40 °C rated value	560 kW

### Operating frequency 1 rated value

50 Hz

### Operating frequency 2 rated value

60 Hz

### relative negative tolerance of the operating frequency

-10 %

### relative positive tolerance of the operating frequency

10 %

### minimum load [%]

10 %; Relative to set I<sub>e</sub>

### power loss [W] for rated value of the current at AC

• at 40 °C after startup	171 W
• at 50 °C after startup	151 W
• at 60 °C after startup	141 W

### power loss [W] at AC at current limitation 350 %

• at 40 °C during startup	10 229 W
• at 50 °C during startup	8 488 W
• at 60 °C during startup	7 651 W

### type of the motor protection

Electronic, tripping in the event of thermal overload of the motor

## Control circuit/ Control

### type of voltage of the control supply voltage

AC

### control supply voltage at AC

• at 50 Hz	110 ... 250 V
• at 60 Hz	110 ... 250 V

### relative negative tolerance of the control supply voltage at AC at 50 Hz

-15 %

### relative positive tolerance of the control supply voltage at AC at 50 Hz

10 %

### relative negative tolerance of the control supply voltage at AC at 60 Hz

-15 %

### relative positive tolerance of the control supply voltage at AC at 60 Hz

10 %

### control supply voltage frequency

50 ... 60 Hz

### relative negative tolerance of the control supply voltage frequency

-10 %

### relative positive tolerance of the control supply voltage frequency

10 %

### control supply current in standby mode rated value

100 mA

<b>holding current in bypass operation rated value</b>	150 mA
<b>inrush current by closing the bypass contacts maximum</b>	0.87 A
inrush current peak at application of control supply voltage maximum	43 A
duration of inrush current peak at application of control supply voltage	1.6 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>	4
• with fail-safe	1
• parameterizable	4
• <b>number of digital outputs</b>	3
• Number of digital outputs with fail-safe	1
• number of digital outputs parameterizable	2
• number of digital outputs not parameterizable	1
<b>digital output version</b>	2 normally-open contacts (NO) / 1 normally-closed contact (NC) / 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

#### Response times

OFF-delay time with safety-related request when switched off via control inputs maximum	100 ms
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#### Installation/ mounting/ dimensions

<b>mounting position</b>	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)
<b>fastening method</b>	screw fixing
<b>height</b>	393 mm
<b>width</b>	210 mm
<b>depth</b>	203 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
<b>weight without packaging</b>	10.9 kg

#### Connections/ Terminals

<b>type of electrical connection</b>	
• for main current circuit	busbar connection
• for control circuit	screw-type terminals
<b>width of connection bar maximum</b>	45 mm
<b>wire length for thermistor connection</b>	
• with conductor cross-section = 0.5 mm² maximum	50 m
• with conductor cross-section = 1.5 mm² maximum	150 m
• with conductor cross-section = 2.5 mm² maximum	250 m
<b>type of connectable conductor cross-sections</b>	
• for DIN cable lug for main contacts stranded	2x (50 ... 240 mm²)
• for DIN cable lug for main contacts finely stranded	2x (70 ... 240 mm²)
<b>type of connectable conductor cross-sections</b>	
• for control circuit solid	1x (0.5 ... 4.0 mm²), 2x (0.5 ... 2.5 mm²)
• for control circuit finely stranded with core end processing	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)
• at AWG cables for control circuit solid	1x (20 ... 12), 2x (20 ... 14)
<b>wire length</b>	
• between soft starter and motor maximum	800 m
• at the digital inputs at DC maximum	1 000 m
<b>tightening torque</b>	
• for main contacts with screw-type terminals	14 ... 24 N·m
• for auxiliary and control contacts with screw-type	0.8 ... 1.2 N·m

terminals	
<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>	124 ... 210 lbf·in 7 ... 10.3 lbf·in
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m; Derating as of 1000 m, see catalog
<b>ambient temperature</b>	
<ul style="list-style-type: none"> <li>• during operation</li> </ul>	-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above
<ul style="list-style-type: none"> <li>• during storage and transport</li> </ul>	-40 ... +80 °C
<b>environmental category</b>	
<ul style="list-style-type: none"> <li>• during operation according 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 according 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 according to IEC 60721</li> </ul>	2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)
<b>EMC emitted interference</b>	acc. to IEC 60947-4-2: Class A
<b>Communication/ Protocol</b>	
<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
<b>UL/CSA ratings</b>	
<b>manufacturer's article number</b>	
<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 J / L, max. 1600 A; Iq = 30 kA Type: Class J / L, max. 1200 A; Iq = 100 kA Type: Class J / L, max. 1600 A; Iq = 30 kA Type: Class J / L, max. 1200 A; Iq = 100 kA
<b>operating power [hp] for 3-phase motors</b>	
<ul style="list-style-type: none"> <li>• at 200/208 V at 50 °C rated value</li> <li>• at 220/230 V at 50 °C rated value</li> <li>• at 460/480 V at 50 °C rated value</li> <li>• at 200/208 V at inside-delta circuit at 50 °C rated value</li> <li>• at 220/230 V at inside-delta circuit at 50 °C rated value</li> <li>• at 460/480 V at inside-delta circuit at 50 °C rated value</li> </ul>	150 hp 200 hp 400 hp 300 hp 350 hp 750 hp
<b>contact rating of auxiliary contacts according to UL</b>	R300-B300
<b>Safety related data</b>	
<b>safety device type according to IEC 61508-2</b>	Type B
<b>B10d value</b>	648 000
<b>Safety Integrity Level (SIL)</b>	
<ul style="list-style-type: none"> <li>• according to IEC 61508</li> </ul>	SIL1
<b>SIL Claim Limit (subsystem) according to EN 62061</b>	SIL 1
performance level (PL) according to EN ISO 13849-1	c
category according to EN ISO 13849-1	2
<b>stop category according to EN 60204-1</b>	0
<b>Safe failure fraction (SFF)</b>	60 %
<b>average diagnostic coverage level (DCavg)</b>	90 %
<b>diagnostics test interval by internal test function maximum</b>	1 000 s
PFHD with high demand rate according to EN 62061	1E-6 1/h
<b>PFDavg with low demand rate according to IEC 61508</b>	0.09
<b>hardware fault tolerance according to IEC 61508</b>	0
T1 value for proof test interval or service life according to	20 a

IEC 61508

safe state

protection class IP on the front according to IEC 60529

touch protection on the front according to IEC 60529

electromagnetic compatibility

Open load circuit

IP00; IP20 with cover

finger-safe, for vertical contact from the front with cover

acc. to IEC 60947-4-2

## ATEX

certificate of suitability

- ATEX
- IECEx
- according to ATEX directive 2014/34/EU

type of protection according to ATEX directive 2014/34/EU

hardware fault tolerance according to IEC 61508 relating to ATEX

PFDAvg with low demand rate according to IEC 61508 relating to ATEX

PFHD with high demand rate according to EN 62061 relating to ATEX

Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX

T1 value for proof test interval or service life according to IEC 61508 relating to ATEX

Yes

Yes

BVS 18 ATEX F 003 X

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]

0

0.008

5E-7 1/h

SIL1

3 a

## Certificates/ approvals

General Product Approval



[Confirmation](#)



EMC

For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping



[Type Test Certificates/Test Report](#)



Marine / Shipping

other



[Confirmation](#)

## Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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=3RW5548-6HF14>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5548-6HF14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5548-6HF14>

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

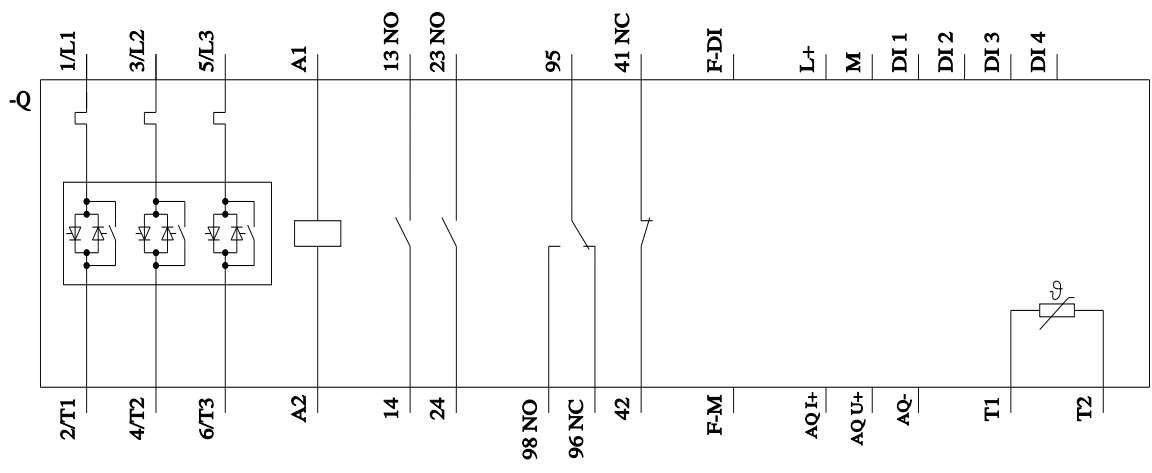
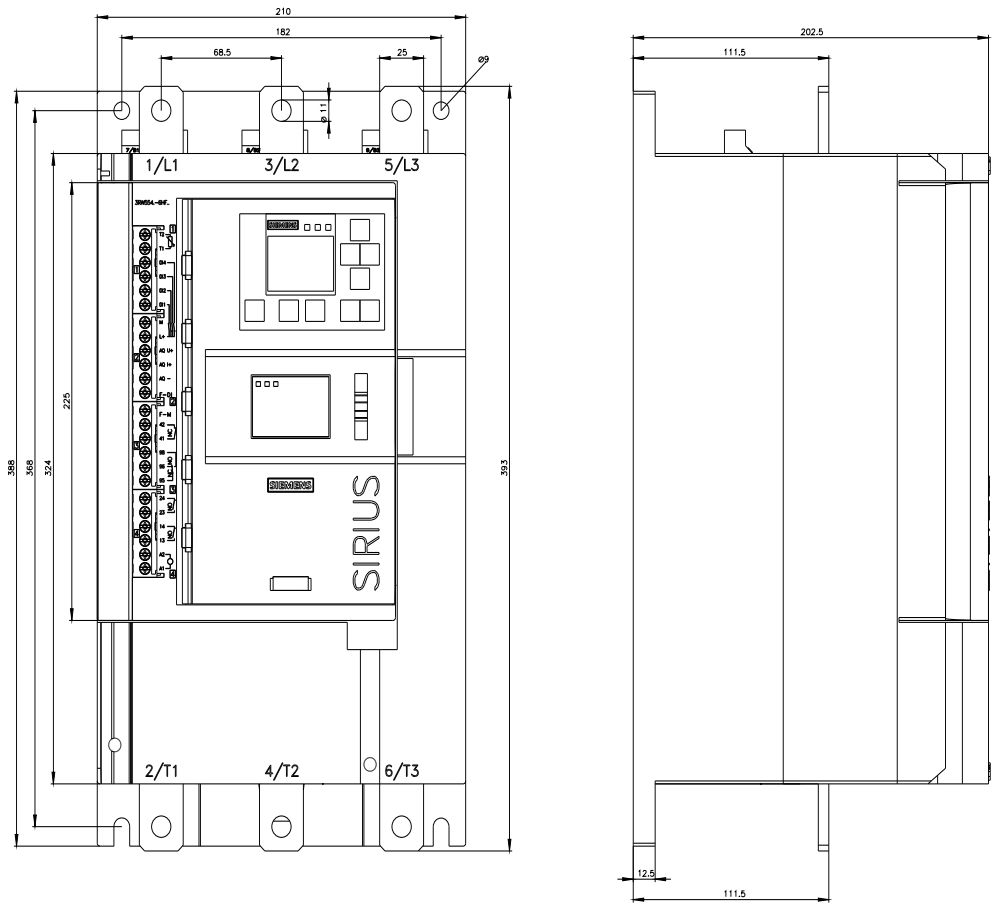
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5548-6HF14&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5548-6HF14&lang=en)

Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5548-6HF14/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5548-6HF14&objecttype=14&gridview=view1>







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