



SIRIUS soft starter 200-480 V 171 A, 110-250 V AC spring-type terminals

**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

Soft starter

3RW55

[3RW5980-0HF00](#)

[3RW5980-0CS00](#)

[3RW5950-0CH00](#)

[3RW5980-0CP00](#)

[3RW5980-0CT00](#)

[3RW5980-0CR00](#)

[3RW5980-0CE00](#)

[3VA2325-7MN32-0AA0](#); Type of coordination 1, I<sub>q</sub> = 30 kA, CLASS 10

[3VA2325-7MN32-0AA0](#); Type of coordination 1, I<sub>q</sub> = 10 kA, CLASS 10

[3VA2440-7MN32-0AA0](#); Type of coordination 1, I<sub>q</sub> = 30 kA, CLASS 10

[3VA2440-7MN32-0AA0](#); Type of coordination 1, I<sub>q</sub> = 10 kA, CLASS 10

[3NA3365-6](#); Type of coordination 1, I<sub>q</sub> = 65 kA

[3NA3365-6](#); Type of coordination 1, I<sub>q</sub> = 65 kA

[3NE1230-0](#); Type of coordination 2, I<sub>q</sub> = 65 kA

[3NE3334-0B](#); 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
- UL approval

Yes

Yes

- CSA approval

**product component**

- HMI-High Feature
- is supported HMI-High Feature

**product feature integrated bypass contact system**

**number of controlled phases**

**trip class**

**current unbalance limiting value [%]**

**ground-fault monitoring limiting value [%]**

**buffering time in the event of power failure**

- for main current circuit
- for control circuit

**idle time adjustable**

**insulation voltage rated value**

**degree of pollution**

**impulse voltage rated value**

**blocking voltage of the thyristor maximum**

**service factor**

**surge voltage resistance rated value**

**maximum permissible voltage for safe isolation**

- between main and auxiliary circuit

**shock resistance**

**vibration resistance**

**recovery time after overload trip adjustable**

utilization category according to IEC 60947-4-2

**reference code according to IEC 81346-2**

**Substance Prohibitance (Date)**

**product function**

- ramp-up (soft starting)
- ramp-down (soft stop)
- breakaway pulse
- adjustable current limitation
- creep speed in both directions of rotation
- pump ramp down
- DC braking
- motor heating
- slave pointer function
- trace function
- intrinsic device protection
- motor overload protection

- evaluation of thermistor motor protection
- inside-delta circuit
- auto-RESET
- manual RESET
- remote reset
- communication function
- operating measured value display
- event list
- error logbook
- via software parameterizable
- via software configurable
- screw terminal
- spring-loaded terminal
- **PROFInergy**

- **firmware update**
- **removable terminal for control circuit**
- voltage ramp
- torque control
- combined braking
- analog output
- programmable control inputs/outputs

Yes

Yes

Yes

Yes

3

CLASS 10A / 10E (default) / 20E / 30E; acc. to IEC 60947-4-2

10 ... 60 %

10 ... 95 %

100 ms

100 ms

0 ... 255 s

480 V

3, acc. to IEC 60947-4-2

6 kV

1 400 V

1.15

6 kV

480 V; does not apply for thermistor connection

15 g / 11 ms, from 6 g / 11 ms with potential contact lifting

15 mm up to 6 Hz; 2 g up to 500 Hz

60 ... 1 800 s

AC 53a

Q

02/15/2018

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

No

Yes

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

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	171 A
• at 40 °C rated value minimum	34 A
• at 50 °C rated value	153 A
• at 60 °C rated value	141 A

### operational current at inside-delta circuit

• at 40 °C rated value	296 A
• at 50 °C rated value	265 A
• at 60 °C rated value	244 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	45 kW
• at 230 V at inside-delta circuit at 40 °C rated value	90 kW
• at 400 V at 40 °C rated value	90 kW
• at 400 V at inside-delta circuit at 40 °C rated value	160 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 le

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

• at 40 °C after startup	51 W
• at 50 °C after startup	46 W
• at 60 °C after startup	42 W

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

• at 40 °C during startup	2 393 W
• at 50 °C during startup	2 038 W
• at 60 °C during startup	1 814 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

### holding current in bypass operation rated value

180 mA

<b>inrush current by closing the bypass contacts maximum</b>	0.8 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
<b>Inputs/ Outputs</b>	
<b>number of digital inputs</b>	4
• parameterizable	4
• <b>number of digital outputs</b>	4
• number of digital outputs parameterizable	3
• number of digital outputs not parameterizable	1
<b>digital output version</b>	3 normally-open contacts (NO) / 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
<b>Installation/ mounting/ dimensions</b>	
<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>	306 mm
<b>width</b>	185 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>	9.1 kg
<b>Connections/ Terminals</b>	
<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>	25 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 (16 ... 95 mm²)
• for DIN cable lug for main contacts finely stranded	2x (25 ... 120 mm²)
<b>type of connectable conductor cross-sections</b>	
• for control circuit solid	2x (0.25 ... 1.5 mm²)
• for control circuit finely stranded with core end processing	2x (0.25 ... 1.5 mm²)
• at AWG cables for control circuit solid	2x (24 ... 16)
• at AWG cables for control circuit finely stranded with core end processing	2x (24 ... 16)
<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	10 ... 14 N·m
• for auxiliary and control contacts with screw-type terminals	0.8 ... 1.2 N·m
<b>tightening torque [lbf·in]</b>	
• for main contacts with screw-type terminals	89 ... 124 lbf·in
• for auxiliary and control contacts with screw-type terminals	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

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

- during storage and transport

-40 ... +80 °C

### environmental category

- during operation according 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 according to IEC 60721

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

- during transport according 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
- PROFINET high-feature
- EtherNet/IP
- Modbus RTU
- Modbus TCP
- PROFIBUS

Yes

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 according to UL
- usable for High Faults at 575/600 V at inside-delta circuit according to UL
- usable for Standard Faults at 575/600 V at inside-delta circuit according to UL

Siemens type: 3VA52, max. 250 A; Iq = 10 kA

Siemens type: 3VA52, max. 250 A; Iq max = 65 kA

Siemens type: 3VA52, max. 250 A; Iq = 10 kA

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#### • 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

Type: Class RK5 / K5, max. 400 A; Iq = 10 kA

Type: Class J / L, max. 350 A; Iq = 100 kA

Type: Class RK5 / K5, max. 400 A; Iq = 10 kA

Type: Class J / L, max. 350 A; Iq = 100 kA

### 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

50 hp

50 hp

100 hp

75 hp

100 hp

200 hp

### contact rating of auxiliary contacts according to UL

R300-B300

## 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  
acc. to IEC 60947-4-2

## ATEX

### certificate of suitability

- ATEX

Yes

- 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

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

EMC



[Confirmation](#)



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=3RW5536-2HA14>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5536-2HA14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5536-2HA14>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5536-2HA14&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5536-2HA14&lang=en)

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

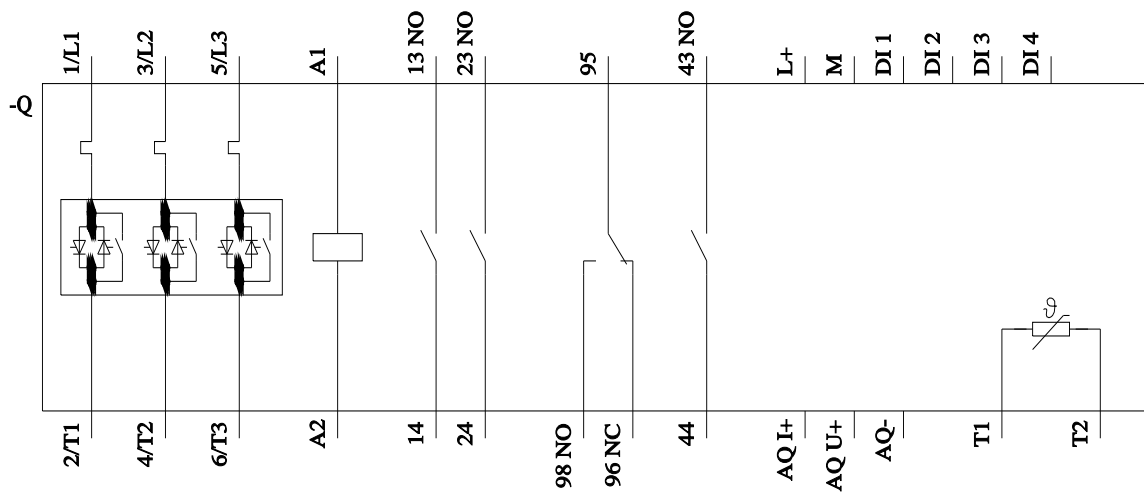
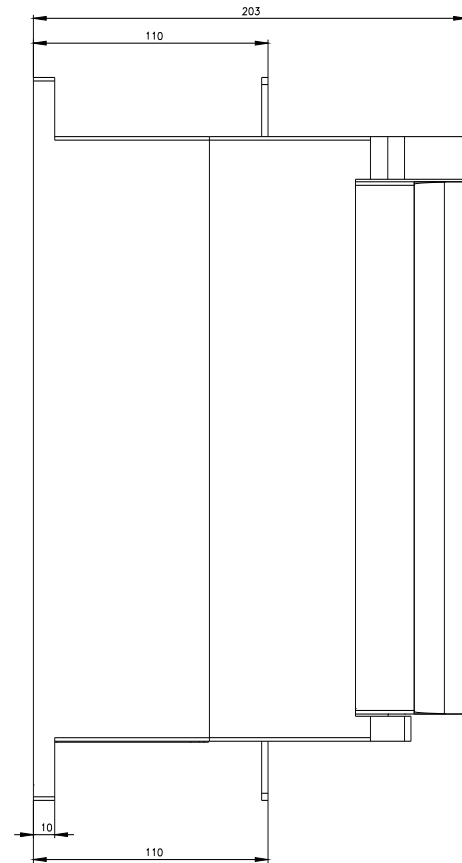
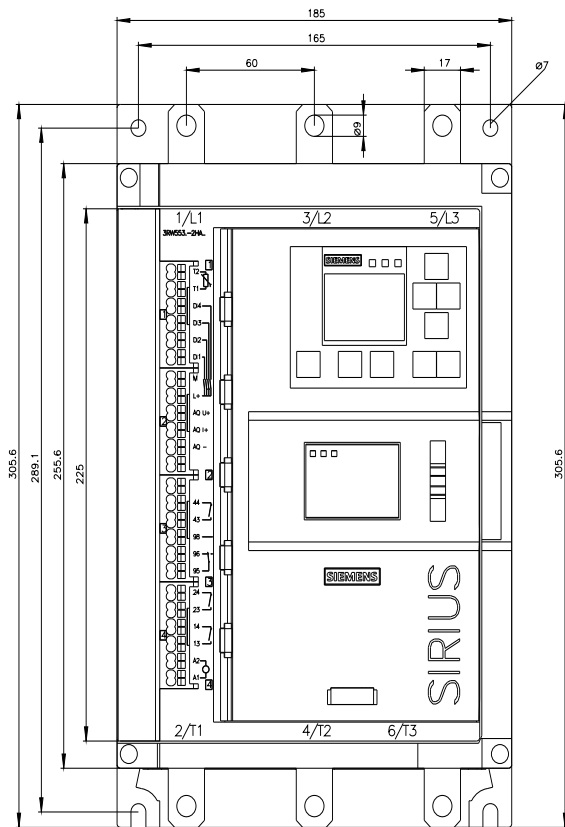
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5536-2HA14/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5536-2HA14&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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







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