



SIRIUS soft starter 200-480 V 315 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

SIRIUS

Hybrid switching devices

Soft starter

3RW55

[3RW5980-0HF00](#)

[3RW5980-0CS00](#)

[3RW5950-0CH00](#)

[3RW5980-0CP00](#)

[3RW5980-0CT00](#)

[3RW5980-0CR00](#)

[3RW5980-0CE00](#)

[3VA2440-7MN32-0AA0; Type of coordination 1, I_q = 65 kA, CLASS 10](#)

[3VA2440-7MN32-0AA0; Type of coordination 1, I_q = 65 kA, CLASS 10](#)

[3VA2580-6HN32-0AA0; Type of coordination 1, I_q = 65 kA, CLASS 10](#)

[3VA2580-6HN32-0AA0; Type of coordination 1, I_q = 65 kA, CLASS 10](#)

2x3NA3365-6; Type of coordination 1, I_q = 65 kA

2x3NA3365-6; Type of coordination 1, I_q = 65 kA

[3NE1334-2; Type of coordination 2, I_q = 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
- CSA approval

Yes

Yes

Yes

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
- condition monitoring
- automatic parameterisation

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

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

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

Yes

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	315 A
• at 40 °C rated value minimum	63 A
• at 50 °C rated value	279 A
• at 60 °C rated value	255 A

operational current at inside-delta circuit

• at 40 °C rated value	546 A
• at 50 °C rated value	483 A
• at 60 °C rated value	442 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	90 kW
• at 230 V at inside-delta circuit at 40 °C rated value	160 kW
• at 400 V at 40 °C rated value	160 kW
• at 400 V at inside-delta circuit at 40 °C rated value	315 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_e

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

• at 40 °C after startup	95 W
• at 50 °C after startup	84 W
• at 60 °C after startup	77 W

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

• at 40 °C during startup	4 966 W
• at 50 °C during startup	4 153 W
• at 60 °C during startup	3 646 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

150 mA

locked-rotor current at close of bypass contact maximum

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
design of the overvoltage protection	Varistor
design of short-circuit protection for control circuit	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	
number of digital inputs	4
• parameterizable	4
• number of digital outputs	4
• number of digital outputs parameterizable	3
• number of digital outputs not parameterizable	1
digital output version	3 normally-open contacts (NO) / 1 changeover contact (CO)
number of analog outputs	1
switching capacity current of the relay outputs	
• at AC-15 at 250 V rated value	3 A
• at DC-13 at 24 V rated value	1 A
Installation/ mounting/ dimensions	
mounting position	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)
fastening method	screw fixing
height	393 mm
width	210 mm
depth	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
weight without packaging	10.2 kg
Connections/ Terminals	
type of electrical connection	
• for main current circuit	busbar connection
• for control circuit	spring-loaded terminals
width of connection bar maximum	45 mm
wire length for thermistor connection	
• 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
type of connectable conductor cross-sections	
• 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)
type of connectable conductor cross-sections	
• 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)
wire length	
• between soft starter and motor maximum	800 m
• at the digital inputs at DC maximum	1 000 m
tightening torque	
• for main contacts with screw-type terminals	14 ... 24 N·m
• for auxiliary and control contacts with screw-type terminals	0.8 ... 1.2 N·m
tightening torque [lbf·in]	
• for main contacts with screw-type terminals	124 ... 210 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	Yes
PROFINET high-feature	Yes
EtherNet/IP	Yes
Modbus RTU	Yes
Modbus TCP	Yes
PROFIBUS	Yes
UL/CSA ratings	
manufacturer's article number	
of circuit breaker	Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; I _q = 18 kA
— usable for Standard Faults at 460/480 V according to UL	Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; I _q max = 65 kA
— usable for High Faults at 460/480 V according to UL	Siemens type: 3VA54, max. 600 A; I _q = 18 kA
— usable for Standard Faults at 460/480 V at inside-delta circuit according to UL	Siemens type: 3VA54, max. 600 A; I _q max = 65 kA
— usable for High Faults at 460/480 V at inside-delta circuit according to UL	Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; I _q = 18 kA
— usable for Standard Faults at 575/600 V according to UL	Siemens type: 3VA54, max. 600 A; I _q max = 65 kA
— usable for High Faults at 575/600 V at inside-delta circuit according to UL	Siemens type: 3VA54, max. 600 A; I _q = 18 kA
— usable for Standard Faults at 575/600 V at inside-delta circuit according to UL	Type: Class J / L, max. 1000 A; I _q = 18 kA
of the fuse	Type: Class J / L, max. 1000 A; I _q = 100 kA
— usable for Standard Faults up to 575/600 V according to UL	Type: Class J / L, max. 1000 A; I _q = 18 kA
— usable for High Faults up to 575/600 V according to UL	Type: Class J / L, max. 1000 A; I _q = 100 kA
— 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	75 hp
operating power [hp] for 3-phase motors	100 hp
at 200/208 V at 50 °C rated value	200 hp
at 220/230 V at 50 °C rated value	150 hp
at 460/480 V at 50 °C rated value	200 hp
at 200/208 V at inside-delta circuit at 50 °C rated value	400 hp
at 220/230 V at inside-delta circuit at 50 °C rated value	R300-B300
at 460/480 V at inside-delta circuit at 50 °C rated value	
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	finger-safe, for vertical contact from the front with cover
electromagnetic compatibility	acc. to IEC 60947-4-2
ATEX	
certificate of suitability	
ATEX	Yes
IECEx	Yes
according to ATEX directive 2014/34/EU	BVS 18 ATEX F 003 X

type of protection according to ATEX directive 2014/34/EU	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]
hardware fault tolerance according to IEC 61508 relating to ATEX	0
PFDavg with low demand rate according to IEC 61508 relating to ATEX	0.008
PFHD with high demand rate according to EN 62061 relating to ATEX	5E-7 1/h
Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX	SIL1
T1 value for proof test interval or service life according to IEC 61508 relating to ATEX	3 y

Certificates/ approvals

General Product Approval	EMC
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[Confirmation](#)



For use in hazardous locations	Declaration of Conformity	Test Certificates	Marine / Shipping
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[Type Test Certificates/Test Report](#)



Marine / Shipping	other
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[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=3RW5545-2HA14>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5545-2HA14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5545-2HA14>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5545-2HA14&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

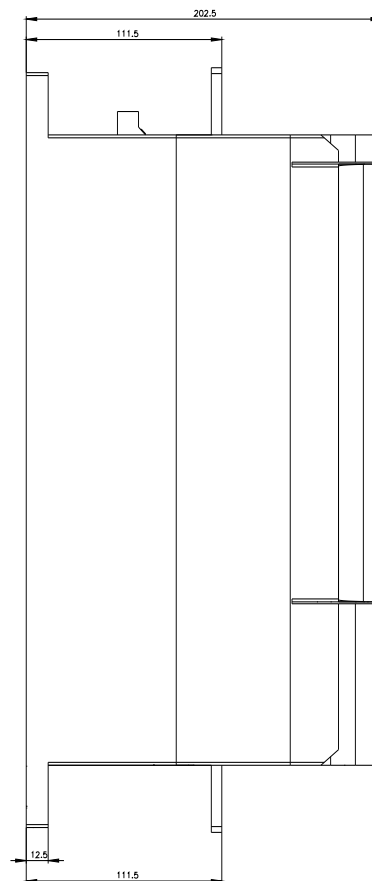
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5545-2HA14/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5545-2HA14&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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



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