



SIRIUS soft starter 200-480 V 370 A, 24 V AC/DC 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, Iq = 65 kA, CLASS 10](#)

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

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

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

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

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

[3NE1334-2; Type of coordination 2, Iq = 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 Klaxon / 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
- alternative run-down
- emergency operation mode
- reversing operation
- soft starting at heavy starting conditions

Yes
Yes
Yes
Yes
Yes

Power Electronics

operational current

- at 40 °C rated value
- at 40 °C rated value minimum
- at 50 °C rated value
- at 60 °C rated value

370 A
74 A
328 A
300 A

operational current at inside-delta circuit

- at 40 °C rated value
- at 50 °C rated value
- at 60 °C rated value

641 A
568 A
519 A

operating voltage

- rated value
- at inside-delta circuit rated value

200 ... 480 V
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
- at 230 V at inside-delta circuit at 40 °C rated value
- at 400 V at 40 °C rated value
- at 400 V at inside-delta circuit at 40 °C rated value

110 kW
200 kW
200 kW
355 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
- at 50 °C after startup
- at 60 °C after startup

111 W
98 W
90 W

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

- at 40 °C during startup
- at 50 °C during startup
- at 60 °C during startup

5 563 W
4 694 W
4 145 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/DC

control supply voltage at AC

- at 50 Hz rated value
- at 60 Hz rated value

24 V
24 V

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

-20 %

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

20 %

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

-20 %

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

20 %

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 voltage

- at DC rated value

24 V

relative negative tolerance of the control supply voltage at DC

-20 %

relative positive tolerance of the control supply voltage at DC	20 %
control supply current in standby mode rated value	440 mA
holding current in bypass operation rated value	720 mA
locked-rotor current at close of bypass contact maximum	6.7 A
inrush current peak at application of control supply voltage maximum	7.5 A
duration of inrush current peak at application of control supply voltage	20 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	10.9 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 mm ² maximum	50 m
• with conductor cross-section = 1.5 mm ² maximum	150 m
• with conductor cross-section = 2.5 mm ² maximum	250 m
type of connectable conductor cross-sections	
• for DIN cable lug for main contacts stranded	2x (50 ... 240 mm ²)
• for DIN cable lug for main contacts finely stranded	2x (70 ... 240 mm ²)
type of connectable conductor cross-sections	
• for control circuit solid	2x (0.25 ... 1.5 mm ²)
• for control circuit finely stranded with core end processing	2x (0.25 ... 1.5 mm ²)
• 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
- for auxiliary and control contacts with screw-type terminals

124 ... 210 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

-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 the fuse

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

Type: Class J / L, max. 1200 A; Iq = 18 kA

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

Type: Class J / L, max. 1200 A; Iq = 100 kA

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

Type: Class J / L, max. 1200 A; Iq = 18 kA

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

Type: Class J / L, max. 1200 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

100 hp
125 hp
250 hp
200 hp
200 hp
450 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
- IECEx
- according to ATEX directive 2014/34/EU

Yes
Yes
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



[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- 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=3RW5546-2HA04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5546-2HA04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5546-2HA04>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5546-2HA04&lang=en

Characteristic: Tripping characteristics, I_{2t}, Let-through current

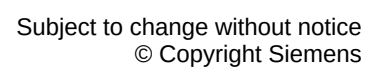
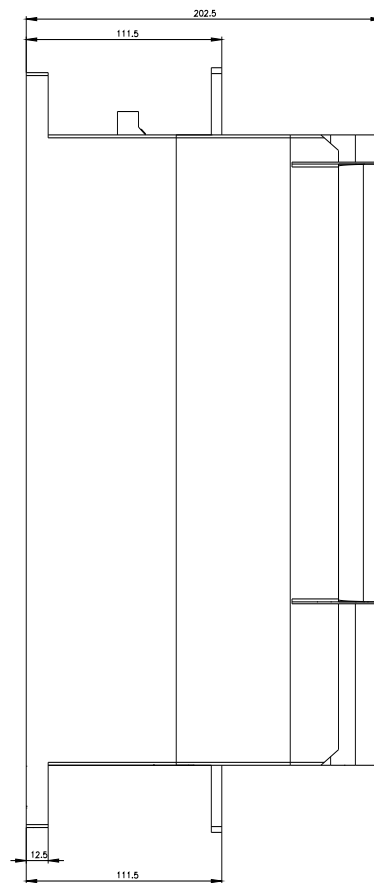
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5546-2HA04/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5546-2HA04&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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



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