



SIRIUS soft starter 200-480 V 315 A, 110-250 V AC Screw terminals
Thermistor input

product brand name

product category

product designation

product type designation

manufacturer's article number

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

3RW52

[3RW5980-0HS00](#)

[3RW5980-0HF00](#)

[3RW5980-0CS00](#)

[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

[3NE3336](#); Type of coordination 2, I_q = 65 kA

General technical data

starting voltage [%]

30 ... 100 %

stopping voltage [%]

50 %; non-adjustable

start-up ramp time of soft starter

0 ... 20 s

current limiting value [%] adjustable

130 ... 700 %

certificate of suitability

- CE marking
- UL approval
- CSA approval

Yes

Yes

Yes

product component

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

No

Yes

Yes

product feature integrated bypass contact system

Yes

number of controlled phases

3

trip class

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

buffering time in the event of power failure

<ul style="list-style-type: none"> • for main current circuit • for control circuit 	100 ms
insulation voltage rated value	100 ms
degree of pollution	600 V
impulse voltage rated value	3, acc. to IEC 60947-4-2
blocking voltage of the thyristor maximum	6 kV
service factor	1 600 V
surge voltage resistance rated value	1
maximum permissible voltage for safe isolation	6 kV
<ul style="list-style-type: none"> • between main and auxiliary circuit 	600 V
shock resistance	15 g / 11 ms, from 12 g / 11 ms with potential contact lifting
vibration resistance	15 mm to 6 Hz; 2g to 500 Hz
utilization category according to IEC 60947-4-2	AC 53a
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	02/15/2018
product function	
<ul style="list-style-type: none"> • ramp-up (soft starting) • ramp-down (soft stop) • Soft Torque • adjustable current limitation • pump ramp down • intrinsic device protection • motor overload protection 	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)
	Yes; Type A PTC or Klaxon / Thermoclick
<ul style="list-style-type: none"> • evaluation of thermistor motor protection • inside-delta circuit • auto-RESET • manual RESET • remote reset • communication function • operating measured value display • error logbook • via software parameterizable • via software configurable • PROFInergy 	Yes
	Yes
	Yes
	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
<ul style="list-style-type: none"> • firmware update • removable terminal for control circuit • torque control • analog output 	Yes
	No
	No

Power Electronics

operational current	
<ul style="list-style-type: none"> • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value 	315 A
	279 A
	255 A
operational current at inside-delta circuit	
<ul style="list-style-type: none"> • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value 	546 A
	483 A
	442 A
operating voltage	
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • 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 	90 kW
	160 kW
	160 kW
	315 kW
Operating frequency 1 rated value	50 Hz

Operating frequency 2 rated value
relative negative tolerance of the operating frequency
relative positive tolerance of the operating frequency
adjustable motor current

- at rotary coding switch on switch position 1 135 A
- at rotary coding switch on switch position 2 147 A
- at rotary coding switch on switch position 3 159 A
- at rotary coding switch on switch position 4 171 A
- at rotary coding switch on switch position 5 183 A
- at rotary coding switch on switch position 6 195 A
- at rotary coding switch on switch position 7 207 A
- at rotary coding switch on switch position 8 219 A
- at rotary coding switch on switch position 9 231 A
- at rotary coding switch on switch position 10 243 A
- at rotary coding switch on switch position 11 255 A
- at rotary coding switch on switch position 12 267 A
- at rotary coding switch on switch position 13 279 A
- at rotary coding switch on switch position 14 291 A
- at rotary coding switch on switch position 15 303 A
- at rotary coding switch on switch position 16 315 A
- minimum 135 A

adjustable motor current

- for inside-delta circuit at rotary coding switch on switch position 1 234 A
- for inside-delta circuit at rotary coding switch on switch position 2 255 A
- for inside-delta circuit at rotary coding switch on switch position 3 275 A
- for inside-delta circuit at rotary coding switch on switch position 4 296 A
- for inside-delta circuit at rotary coding switch on switch position 5 317 A
- for inside-delta circuit at rotary coding switch on switch position 6 338 A
- for inside-delta circuit at rotary coding switch on switch position 7 359 A
- for inside-delta circuit at rotary coding switch on switch position 8 379 A
- for inside-delta circuit at rotary coding switch on switch position 9 400 A
- for inside-delta circuit at rotary coding switch on switch position 10 421 A
- for inside-delta circuit at rotary coding switch on switch position 11 442 A
- for inside-delta circuit at rotary coding switch on switch position 12 462 A
- for inside-delta circuit at rotary coding switch on switch position 13 483 A
- for inside-delta circuit at rotary coding switch on switch position 14 504 A
- for inside-delta circuit at rotary coding switch on switch position 15 525 A
- for inside-delta circuit at rotary coding switch on switch position 16 546 A
- at inside-delta circuit minimum 234 A

minimum load [%]

15 %; Relative to smallest settable I_e

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

- at 40 °C after startup 107 W
- at 50 °C after startup 96 W
- at 60 °C after startup 89 W

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

- at 40 °C during startup 5 350 W
- at 50 °C during startup 4 471 W
- at 60 °C during startup 3 934 W

Control circuit/ Control

type of voltage of the control supply voltage
control supply voltage at AC

AC

<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	110 ... 250 V
relative negative tolerance of the control supply voltage at AC at 50 Hz	110 ... 250 V
relative positive tolerance of the control supply voltage at AC at 50 Hz	-15 %
relative negative tolerance of the control supply voltage at AC at 60 Hz	10 %
relative positive tolerance of the control supply voltage at AC at 60 Hz	-15 %
control supply voltage frequency	10 %
relative negative tolerance of the control supply voltage frequency	50 ... 60 Hz
relative positive tolerance of the control supply voltage frequency	-10 %
control supply current in standby mode rated value	10 %
holding current in bypass operation rated value	30 mA
inrush current peak at application of control supply voltage maximum	100 mA
duration of inrush current peak at application of control supply voltage	12.2 A
design of the overvoltage protection	2.2 ms
design of short-circuit protection for control circuit	Varistor
	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	1
number of digital outputs	3
<ul style="list-style-type: none"> • not parameterizable 	2
digital output version	2 normally-open contacts (NO) / 1 changeover contact (CO)
number of analog outputs	0
switching capacity current of the relay outputs	
<ul style="list-style-type: none"> • at AC-15 at 250 V rated value • at DC-13 at 24 V rated value 	3 A
	1 A
Installation/ mounting/ dimensions	
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
fastening method	screw fixing
height	393 mm
width	210 mm
depth	203 mm
required spacing with side-by-side mounting	
<ul style="list-style-type: none"> • forwards • backwards • upwards • downwards • at the side 	10 mm
	0 mm
	100 mm
	75 mm
	5 mm
weight without packaging	9.9 kg
Connections/ Terminals	
type of electrical connection	busbar connection
<ul style="list-style-type: none"> • for main current circuit • for control circuit 	screw-type terminals
width of connection bar maximum	45 mm
wire length for thermistor connection	
<ul style="list-style-type: none"> • with conductor cross-section = 0.5 mm² maximum • with conductor cross-section = 1.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum 	50 m
	150 m
	250 m
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for DIN cable lug for main contacts stranded • for DIN cable lug for main contacts finely stranded 	2x (50 ... 240 mm²)
	2x (70 ... 240 mm²)
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for control circuit solid • for control circuit finely stranded with core end processing • at AWG cables for control circuit solid 	1x (0.5 ... 4.0 mm²), 2x (0.5 ... 2.5 mm²)
	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)
	1x (20 ... 12), 2x (20 ... 14)

wire length <ul style="list-style-type: none"> • between soft starter and motor maximum • at the digital inputs at AC maximum tightening torque <ul style="list-style-type: none"> • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals tightening torque [lbf·in] <ul style="list-style-type: none"> • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals 	800 m 100 m 14 ... 24 N·m 0.8 ... 1.2 N·m 124 ... 210 lbf·in 7 ... 10.3 lbf·in
Ambient conditions	
installation altitude at height above sea level maximum ambient temperature <ul style="list-style-type: none"> • during operation • during storage and transport environmental category <ul style="list-style-type: none"> • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 EMC emitted interference	5 000 m; Derating as of 1000 m, see catalog -25 ... +60 °C; Please observe derating at temperatures of 40 °C or above -40 ... +80 °C 3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6 1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4 2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m) acc. to IEC 60947-4-2: Class A
Communication/ Protocol	
communication module is supported <ul style="list-style-type: none"> • PROFINET standard • EtherNet/IP • Modbus RTU • Modbus TCP • PROFIBUS 	Yes Yes Yes Yes Yes
UL/CSA ratings	
manufacturer's article number <ul style="list-style-type: none"> • of circuit breaker <ul style="list-style-type: none"> — 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 Standard Faults at 575/600 V at inside-delta circuit according to UL • of the fuse <ul style="list-style-type: none"> — 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 operating power [hp] for 3-phase motors <ul style="list-style-type: none"> • 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 contact rating of auxiliary contacts according to UL	Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 18 kA Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq max = 65 kA Siemens type: 3VA54, max. 600 A; Iq = 18 kA Siemens type: 3VA54, max. 600 A; Iq max = 65 kA Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 18 kA Siemens type: 3VA54, max. 600 A; Iq = 18 kA Type: Class J / L, max. 1000 A; Iq = 18 kA Type: Class J / L, max. 1000 A; Iq = 100 kA Type: Class J / L, max. 1000 A; Iq = 18 kA Type: Class J / L, max. 1000 A; Iq = 100 kA 75 hp 100 hp 200 hp 150 hp 200 hp 400 hp R300-B300

Safety related data

protection class IP on the front according to IEC 60529
touch protection on the front according to IEC 60529
electromagnetic compatibility

IP00; IP20 with cover
finger-safe, for vertical contact from the front with cover
in accordance with IEC 60947-4-2

Certificates/ approvals

General Product Approval

EMC



[Confirmation](#)



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=3RW5245-6TC14>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5245-6TC14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5245-6TC14>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5245-6TC14&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5245-6TC14/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5245-6TC14&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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

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