



Figure similar

SIRIUS soft starter 200-480 V 570 A, 24 V AC/DC 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 the gG fuse usable up to 690 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
- of line contactor usable up to 480 V
- of line contactor usable up to 690 V

SIRIUS

Hybrid switching devices

Soft starter

3RW50

[3RW5980-0HS01](#)

[3RW5980-0HF00](#)

[3RW5980-0CS00](#)

[3RW5980-0CP00](#)

[3RW5980-0CT00](#)

[3RW5980-0CR00](#)

[3RW5980-0CE00](#)

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

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

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

[3NE1 437-2](#); Type of coordination 2, I_q = 65 kA

[3NE3 340-8](#); Type of coordination 2, I_q = 65 kA

3TF68

3TF68

General technical data

starting voltage [%]

30 ... 100 %

stopping voltage [%]

50 %; non-adjustable

start-up ramp time of soft starter

0 ... 20 s

ramp-down time of soft starter

0 ... 20 s

current limiting value [%] adjustable

130 ... 700 %

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-Standard
- is supported HMI-High Feature

No

Yes

Yes

product feature integrated bypass contact system

Yes

number of controlled phases

2

trip class

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

buffering time in the event of power failure

• 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
• 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)	09/23/2019
product function	
• 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
• evaluation of thermistor motor protection • auto-RESET • manual RESET • remote reset • communication function • operating measured value display • error logbook • via software parameterizable • via software configurable • PROFlenergy	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
• voltage ramp • torque control • analog output	Yes
	No
	No

Power Electronics

operational current	
• at 40 °C rated value • at 50 °C rated value • at 60 °C rated value	570 A
	504 A
	460 A
operating voltage	
• rated value	200 ... 480 V
relative negative tolerance of the operating voltage	-15 %
relative positive tolerance of the operating voltage	10 %
operating power for 3-phase motors	
• at 230 V at 40 °C rated value • at 400 V at 40 °C rated value	160 kW
	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 %
adjustable motor current	
• at rotary coding switch on switch position 1 • at rotary coding switch on switch position 2 • at rotary coding switch on switch position 3 • at rotary coding switch on switch position 4 • at rotary coding switch on switch position 5 • at rotary coding switch on switch position 6 • at rotary coding switch on switch position 7 • at rotary coding switch on switch position 8 • at rotary coding switch on switch position 9	240 A
	262 A
	284 A
	306 A
	328 A
	350 A
	372 A
	394 A
	416 A

• at rotary coding switch on switch position 10 • at rotary coding switch on switch position 11 • at rotary coding switch on switch position 12 • at rotary coding switch on switch position 13 • at rotary coding switch on switch position 14 • at rotary coding switch on switch position 15 • at rotary coding switch on switch position 16 • minimum	438 A 460 A 482 A 504 A 526 A 548 A 570 A 240 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 • at 50 °C after startup • at 60 °C after startup	73 W 57 W 47 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	7 019 W 5 801 W 5 048 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	160 mA
holding current in bypass operation rated value	490 mA
inrush current by closing the bypass contacts maximum	7.6 A
inrush current peak at application of control supply voltage maximum	3.3 A
duration of inrush current peak at application of control supply voltage	12.1 ms
design of the overvoltage protection	Varistor
design of short-circuit protection for control circuit	4 A gG fuse (I _{cu} =1 kA), 6 A quick-acting fuse (I _{cu} =1 kA), C1 miniature circuit breaker (I _{cu} = 600 A), C6 miniature circuit breaker (I _{cu} = 300 A); Is not part of scope of supply
Inputs/ Outputs	
number of digital inputs	1
number of digital outputs	3
• 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	
• 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	230 mm
width	160 mm
depth	282 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	7.3 kg

Connections/ Terminals

type of electrical connection	busbar connection
• for main current circuit	screw-type terminals
• for control circuit	35 mm; with connection cover 3RT1966-4EA1 maximum length 45 mm
width of connection bar maximum	
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 main contacts for box terminal using the front clamping point solid	95 ... 300 mm ²
• for main contacts for box terminal using the front clamping point finely stranded with core end processing	70 ... 240 mm ²
• for main contacts for box terminal using the front clamping point finely stranded without core end processing	70 ... 240 mm ²
• for main contacts for box terminal using the front clamping point stranded	95 ... 300 mm ²
• at AWG cables for main contacts for box terminal using the front clamping point	3/0 ... 600 kcmil
• for main contacts for box terminal using the back clamping point solid	120 ... 240 mm ²
• at AWG cables for main contacts for box terminal using the back clamping point	250 ... 500 kcmil
• for main contacts for box terminal using both clamping points solid	min. 2x 70 mm ² , max. 2x 240 mm ²
• for main contacts for box terminal using both clamping points finely stranded with core end processing	min. 2x 50 mm ² , max. 2x 185 mm ²
• for main contacts for box terminal using both clamping points finely stranded without core end processing	min. 2x 50 mm ² , max. 2x 185 mm ²
• for main contacts for box terminal using both clamping points stranded	min. 2x 70 mm ² , max. 2x 240 mm ²
• for main contacts for box terminal using the back clamping point finely stranded with core end processing	120 ... 185 mm ²
• for main contacts for box terminal using the back clamping point finely stranded without core end processing	120 ... 185 mm ²
• for main contacts for box terminal using the back clamping point stranded	120 ... 240 mm ²
type of connectable conductor cross-sections	
• at AWG cables for main current circuit solid	2/0 ... 500 kcmil
• for DIN cable lug for main contacts stranded	50 ... 240 mm ²
• for DIN cable lug for main contacts finely stranded	70 ... 240 mm ²
type of connectable conductor cross-sections	
• for control circuit solid	1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²)
• for control circuit finely stranded with core end processing	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²)
• at AWG cables for control circuit solid	1x (20 ... 12), 2x (20 ... 14)
wire length	
• between soft starter and motor maximum	800 m
• at the digital inputs at AC maximum	1 000 m
tightening torque	

• for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals	14 ... 24 N·m 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 Manual
ambient temperature • during operation • during storage and transport	-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above -40 ... +80 °C
environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721	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
EMC emitted interference	
Communication/ Protocol	
communication module is supported • PROFINET standard • EtherNet/IP • Modbus RTU • Modbus TCP • PROFIBUS	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 — usable for High Faults up to 575/600 V according to UL	Type: Class L, max. 1600 A; Iq = 30 kA Type: Class 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	150 hp 200 hp 400 hp
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
ATEX	
certificate of suitability • ATEX • IECEx • UKEX	Yes Yes Yes
hardware fault tolerance according to IEC 61508 relating to ATEX	0
PFDAvg with low demand rate according to IEC 61508 relating to ATEX	0.09
PFHD with high demand rate according to EN 62061 relating to ATEX	9E-6 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 a
Certificates/ approvals	
General Product Approval	For use in hazardous locations



[Confirmation](#)



For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping



[Explosion Protection Certificate](#)



[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=3RW5077-6TB04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5077-6TB04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5077-6TB04>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5077-6TB04&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

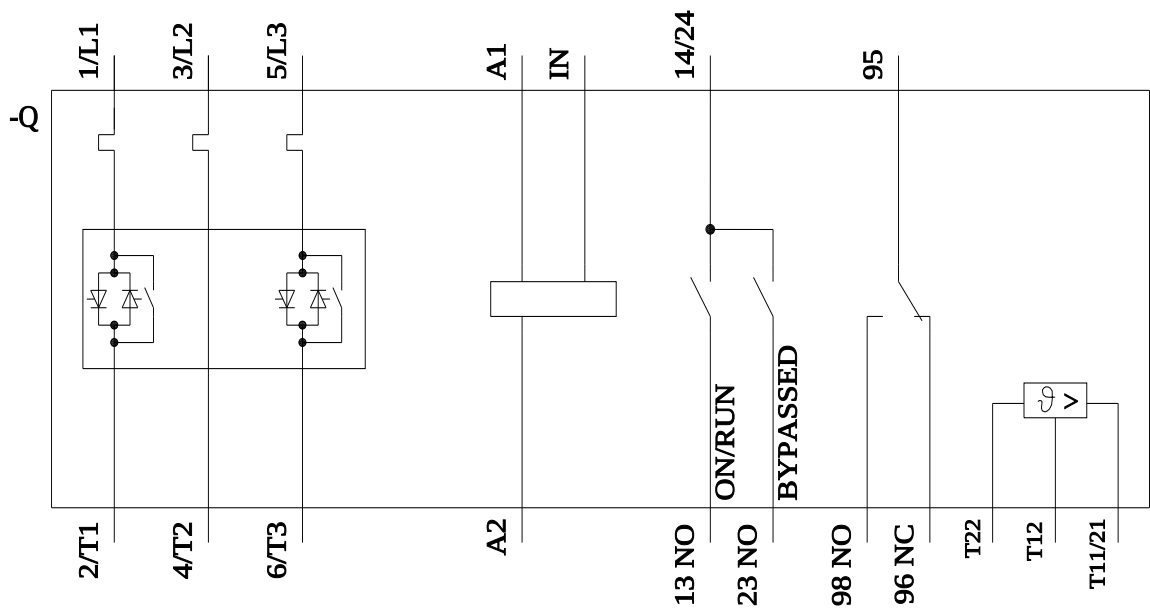
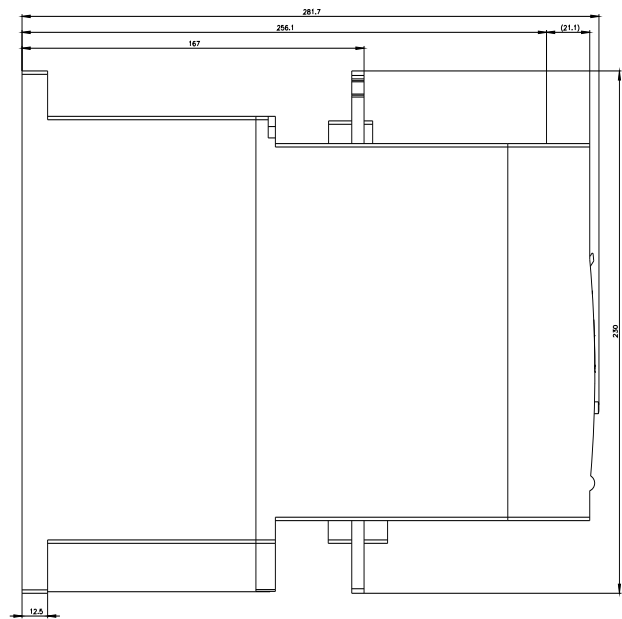
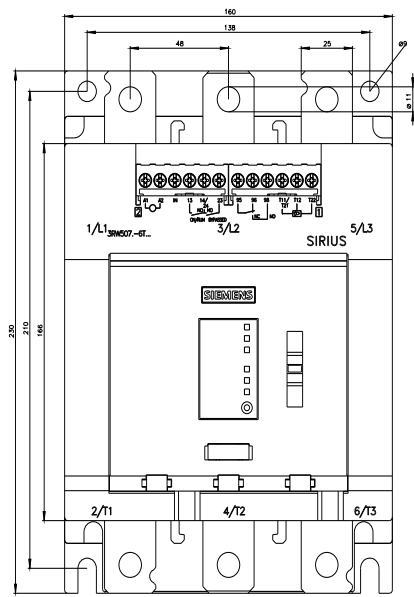
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5077-6TB04/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5077-6TB04&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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



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