



SIRIUS soft starter 200-480 V 77 A, 24 V AC/DC Screw terminals Analog output

product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW52
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
General technical data	
starting voltage [%]	30 ... 100 %
stopping voltage [%]	50 ... 50 %
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
product component	• HMI-High Feature • is supported HMI-Standard • is supported HMI-High Feature
product feature integrated bypass contact system	Yes
number of controlled phases	3

[3RW5980-0HS00](#)

[3RW5980-0HF00](#)

[3RW5980-0CS00](#)

[3RW5980-0CP00](#)

[3RW5980-0CT00](#)

[3RW5980-0CR00](#)

[3RW5980-0CE00](#)

[3VA2110-7MN32-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10](#)

[3VA2110-7MN32-0AA0: Type of coordination 1, Iq = 20 kA, CLASS 10](#)

[3VA2216-7MN32-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10](#)

[3VA2216-7MN32-0AA0: Type of coordination 1, Iq = 20 kA, CLASS 10](#)

[3NA3132-6: Type of coordination 1, Iq = 65 kA](#)

[3NA3132-6: Type of coordination 1, Iq = 65 kA](#)

[3NE1224-0: Type of coordination 2, Iq = 65 kA](#)

[3NE8024-1: Type of coordination 2, Iq = 65 kA](#)

trip class	CLASS 10A (default) / 10E / 20E; acc. to IEC 60947-4-2
buffering time in the event of power failure	
• for main current circuit	100 ms
• for control circuit	100 ms
insulation voltage rated value	600 V
degree of pollution	3, acc. to IEC 60947-4-2
impulse voltage rated value	6 kV
blocking voltage of the thyristor maximum	1 400 V
service factor	1
surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
• 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 acc. to IEC 60947-4-2	AC 53a
reference code acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	15.02.2018
product function	
• ramp-up (soft starting)	Yes
• ramp-down (soft stop)	Yes
• Soft Torque	Yes
• adjustable current limitation	Yes
• pump ramp down	Yes
• intrinsic device protection	Yes
• motor overload protection	Yes; Electronic motor overload protection
• evaluation of thermistor motor protection	No
• inside-delta circuit	Yes
• auto-RESET	Yes
• manual RESET	Yes
• remote reset	Yes; By turning off the control supply voltage
• communication function	Yes
• operating measured value display	Yes; Only in conjunction with special accessories
• error logbook	Yes; Only in conjunction with special accessories
• via software parameterizable	No
• via software configurable	Yes
• PROFInergy	Yes; in connection with the PROFINET Standard communication module
• firmware update	Yes
• removable terminal for control circuit	Yes
• torque control	No
• analog output	Yes; 4 ... 20 mA (default) / 0 ... 10 V (parameterizable with High Feature HMI)
Power Electronics	
operational current	
• at 40 °C rated value	77 A
• at 50 °C rated value	68 A
• at 60 °C rated value	62 A
operational current at inside-delta circuit	
• at 40 °C rated value	133 A
• at 50 °C rated value	118 A
• at 60 °C rated value	107 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 • 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	22 kW 37 kW 37 kW 75 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 • 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	32 A 35 A 38 A 41 A 44 A 47 A 50 A 53 A 56 A 59 A 62 A 65 A 68 A 71 A 74 A 77 A 32 A
adjustable motor current	
• for inside-delta circuit at rotary coding switch on switch position 1 • for inside-delta circuit at rotary coding switch on switch position 2 • for inside-delta circuit at rotary coding switch on switch position 3 • for inside-delta circuit at rotary coding switch on switch position 4 • for inside-delta circuit at rotary coding switch on switch position 5 • for inside-delta circuit at rotary coding switch on switch position 6 • for inside-delta circuit at rotary coding switch on switch position 7 • for inside-delta circuit at rotary coding switch on switch position 8 • for inside-delta circuit at rotary coding switch on switch position 9 • for inside-delta circuit at rotary coding switch on switch position 10 • for inside-delta circuit at rotary coding switch on switch position 11 • for inside-delta circuit at rotary coding switch on switch position 12 • for inside-delta circuit at rotary coding switch on switch position 13 • for inside-delta circuit at rotary coding switch on switch position 14 • for inside-delta circuit at rotary coding switch on switch position 15 • for inside-delta circuit at rotary coding switch on switch position 16 • at inside-delta circuit minimum	55.4 A 60.6 A 65.8 A 71 A 76.2 A 81.4 A 86.6 A 91.8 A 97 A 102 A 107 A 113 A 118 A 123 A 128 A 133 A 55.4 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	35 W 32 W

• at 60 °C after startup	31 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup	1 107 W
• at 50 °C during startup	933 W
• at 60 °C during startup	826 W
Control circuit/ Control	
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
• at 50 Hz rated value	24 V
• at 60 Hz rated value	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	380 mA
locked-rotor current at close of bypass contact 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 (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
• not parameterizable	2
digital output version	2 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	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
fastening method	screw fixing
height	306 mm
width	185 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	5.6 kg
Connections/ Terminals	
type of electrical connection	
• for main current circuit • for control circuit	box terminal screw-type terminals
width of connection bar maximum	25 mm
type of connectable conductor cross-sections	
• for main contacts for box terminal using the front clamping point solid	1x (2.5 ... 16 mm ²)
• for main contacts for box terminal using the front clamping point finely stranded with core end processing	1x (2.5 ... 50 mm ²)
• for main contacts for box terminal using the front clamping point stranded	1x (10 ... 70 mm ²)
• at AWG cables for main contacts for box terminal using the front clamping point	1x (10 ... 2/0)
• for main contacts for box terminal using the back clamping point solid	1x (2.5 ... 16 mm ²)
• at AWG cables for main contacts for box terminal using the back clamping point	1x (10 ... 2/0)
• for main contacts for box terminal using both clamping points solid	2x (2.5 ... 16 mm ²)
• for main contacts for box terminal using both clamping points finely stranded with core end processing	2x (2.5 ... 35 mm ²)
• for main contacts for box terminal using both clamping points stranded	2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²)
• for main contacts for box terminal using the back clamping point finely stranded with core end processing	1x (2.5 ... 50 mm ²)
• for main contacts for box terminal using the back clamping point stranded	1x (10 ... 70 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	100 m
• at the digital inputs at DC maximum	1 000 m
tightening torque	
• for main contacts with screw-type terminals	4.5 ... 6 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	40 ... 53 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 acc. 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 acc. to IEC 60721	1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4
• during transport acc. 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
- EtherNet/IP
- Modbus RTU
- Modbus TCP
- PROFIBUS

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

Siemens type: 3VA51, max. 125 A; I_q = 10 kA
Siemens type: 3VA51, max. 125 A; I_q max = 65 kA
Siemens type: 3VA51, max. 125 A; I_q = 10 kA
Siemens type: 3VA51, max. 125 A; I_q max = 65 kA
Siemens type: 3VA51, max. 125 A; I_q = 10 kA
Siemens type: 3VA51, max. 125 A; I_q = 10 kA

• 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. 250 A; I_q = 10 kA
Type: Class J / L, max. 250 A; I_q = 100 kA
Type: Class RK5 / K5, max. 250 A; I_q = 10 kA
Type: Class J / L, max. 250 A; I_q = 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

20 hp
25 hp
50 hp
30 hp
40 hp
75 hp

contact rating of auxiliary contacts according to UL

R300-B300

Safety related data

protection class IP on the front acc. to IEC 60529

IP00; IP20 with cover

touch protection on the front acc. to IEC 60529

finger-safe, for vertical contact from the front with cover

electromagnetic compatibility

in accordance with IEC 60947-4-2

Certificates/ approvals

General Product Approval

EMC

Declaration of Conformity



Declaration of Conformity

Test Certificates

Marine / Shipping

[UK Declaration of Conformity](#)

[Type Test Certificates/Test Report](#)




[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=3RW5226-1AC04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5226-1AC04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5226-1AC04>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5226-1AC04&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

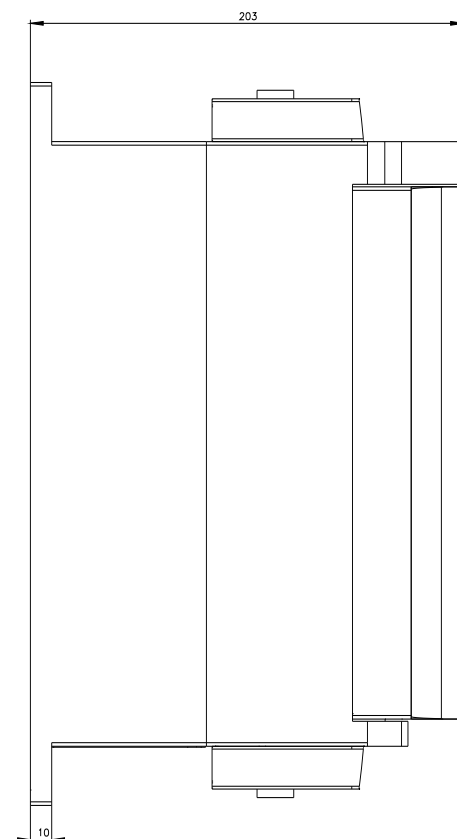
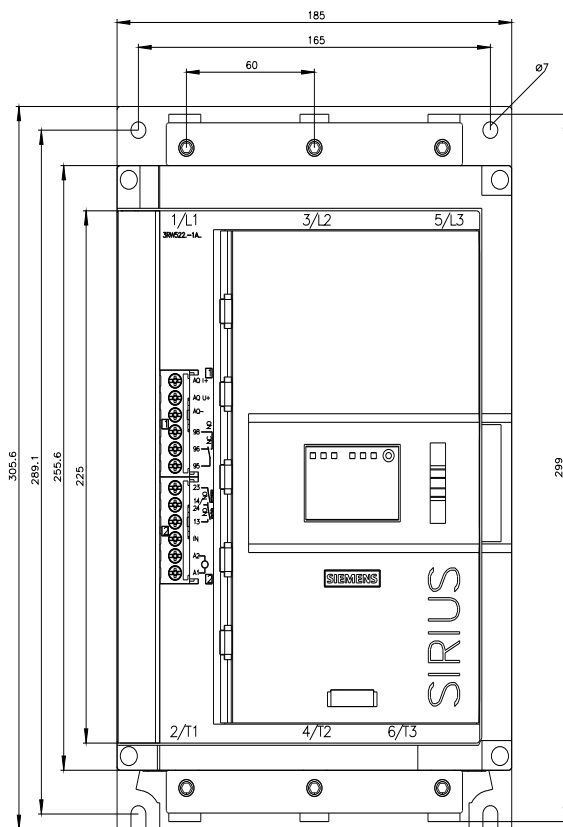
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5226-1AC04/char>

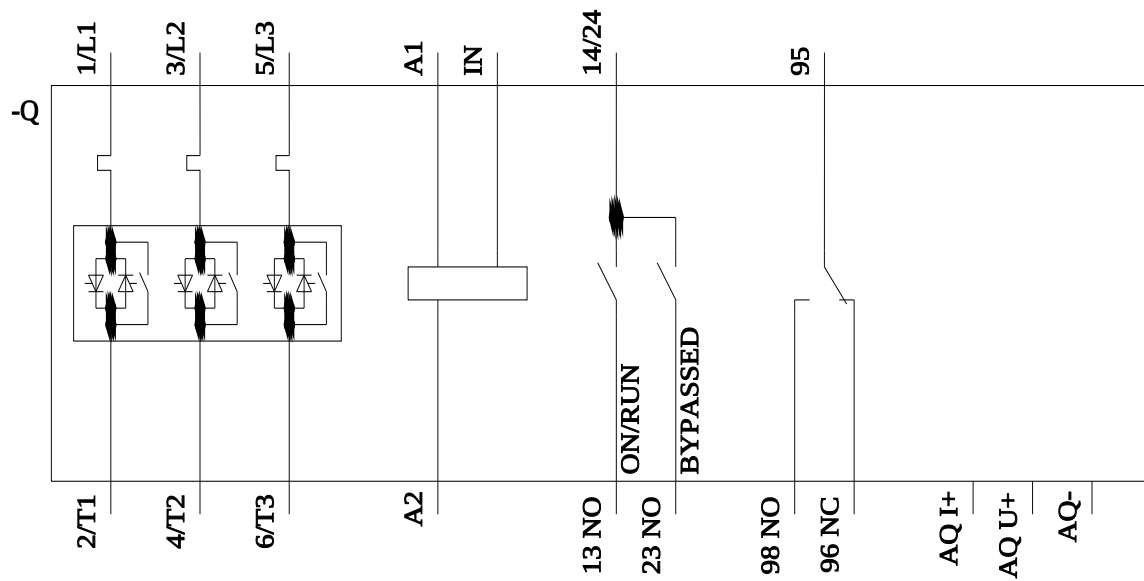
Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5226-1AC04&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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





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