



SIRIUS soft starter 200-480 V 77 A, 110-250 V AC spring-type terminals
Thermistor input

product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW52
manufacturer's article number	<div>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</div>
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	Yes
• UL approval	Yes
• CSA approval	Yes
product component	
• HMI-High Feature	No
• is supported HMI-Standard	Yes
• is supported HMI-High Feature	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	1 400 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 Klixon / 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 	77 A
	68 A
	62 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 	133 A
	118 A
	107 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 	22 kW
	37 kW
	37 kW
	75 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
- 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

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

minimum load [%]

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

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

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

60 Hz

-10 %

10 %

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

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

15 %; Relative to smallest settable I_e

35 W

32 W

31 W

1 107 W

933 W

826 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 by closing the bypass contacts maximum	75 mA
inrush current peak at application of control supply voltage maximum	2.5 A
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 (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
<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	306 mm
width	185 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	5.6 kg

Connections/ Terminals

type of electrical connection	
<ul style="list-style-type: none"> • for main current circuit • for control circuit 	box terminal
width of connection bar maximum	spring-loaded terminals
wire length for thermistor connection	25 mm
<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 main contacts for box terminal using the front clamping point solid • for main contacts for box terminal using the front clamping point finely stranded with core end processing • for main contacts for box terminal using the front 	1x (2.5 ... 16 mm ²)
	1x (2.5 ... 50 mm ²)
	1x (10 ... 70 mm ²)

<p>clamping point stranded</p> <ul style="list-style-type: none"> • at AWG cables for main contacts for box terminal using the front clamping point • for main contacts for box terminal using the back clamping point solid • at AWG cables for main contacts for box terminal using the back clamping point • for main contacts for box terminal using both clamping points solid • for main contacts for box terminal using both clamping points finely stranded with core end processing • for main contacts for box terminal using both clamping points stranded • for main contacts for box terminal using the back clamping point finely stranded with core end processing • for main contacts for box terminal using the back clamping point stranded <p>type of connectable conductor cross-sections</p> <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 • at AWG cables for control circuit finely stranded with core end processing <p>wire length</p> <ul style="list-style-type: none"> • between soft starter and motor maximum • at the digital inputs at AC maximum <p>tightening torque</p> <ul style="list-style-type: none"> • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals <p>tightening torque [lbf·in]</p> <ul style="list-style-type: none"> • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals 	<p>1x (10 ... 2/0)</p> <p>1x (2.5 ... 16 mm²)</p> <p>1x (10 ... 2/0)</p> <p>2x (2.5 ... 16 mm²)</p> <p>2x (2.5 ... 35 mm²)</p> <p>2x (6 ... 16 mm²), 2x (10 ... 50 mm²)</p> <p>1x (2.5 ... 50 mm²)</p> <p>1x (10 ... 70 mm²)</p> <p>2x (0.25 ... 1.5 mm²)</p> <p>2x (0.25 ... 1.5 mm²)</p> <p>2x (24 ... 16)</p> <p>2x (24 ... 16)</p> <p>800 m</p> <p>100 m</p> <p>4.5 ... 6 N·m</p> <p>0.8 ... 1.2 N·m</p> <p>40 ... 53 lbf·in</p> <p>7 ... 10.3 lbf·in</p>
Ambient conditions	
installation altitude at height above sea level maximum	5 000 m; Derating as of 1000 m, see catalog
<p>ambient temperature</p> <ul style="list-style-type: none"> • during operation • during storage and transport 	<p>-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above</p> <p>-40 ... +80 °C</p>
<p>environmental category</p> <ul style="list-style-type: none"> • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 	<p>3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6</p> <p>1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4</p> <p>2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)</p> <p>acc. to IEC 60947-4-2: Class A</p>
EMC emitted interference	
Communication/ Protocol	
<p>communication module is supported</p> <ul style="list-style-type: none"> • PROFINET standard • EtherNet/IP • Modbus RTU • Modbus TCP • PROFIBUS 	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
UL/CSA ratings	
<p>manufacturer's article number</p> <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- 	<p>Siemens type: 3VA51, max. 125 A; I_q = 10 kA</p> <p>Siemens type: 3VA51, max. 125 A; I_q max = 65 kA</p> <p>Siemens type: 3VA51, max. 125 A; I_q = 10 kA</p> <p>Siemens type: 3VA51, max. 125 A; I_q max = 65 kA</p>

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

— 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

• 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: 3VA51, max. 125 A; I_q = 10 kA

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

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

20 hp

25 hp

50 hp

30 hp

40 hp

75 hp

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
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 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=3RW5226-3TC14>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5226-3TC14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5226-3TC14>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5226-3TC14&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

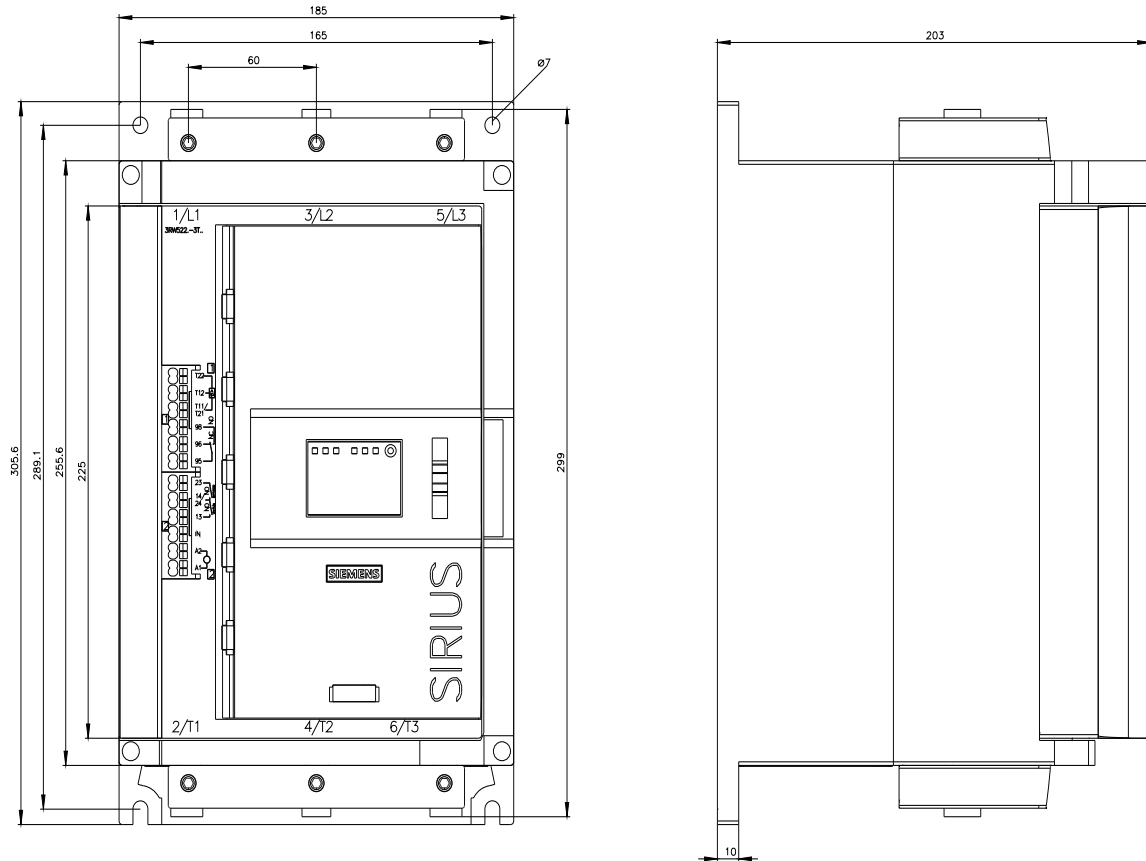
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5226-3TC14/char>

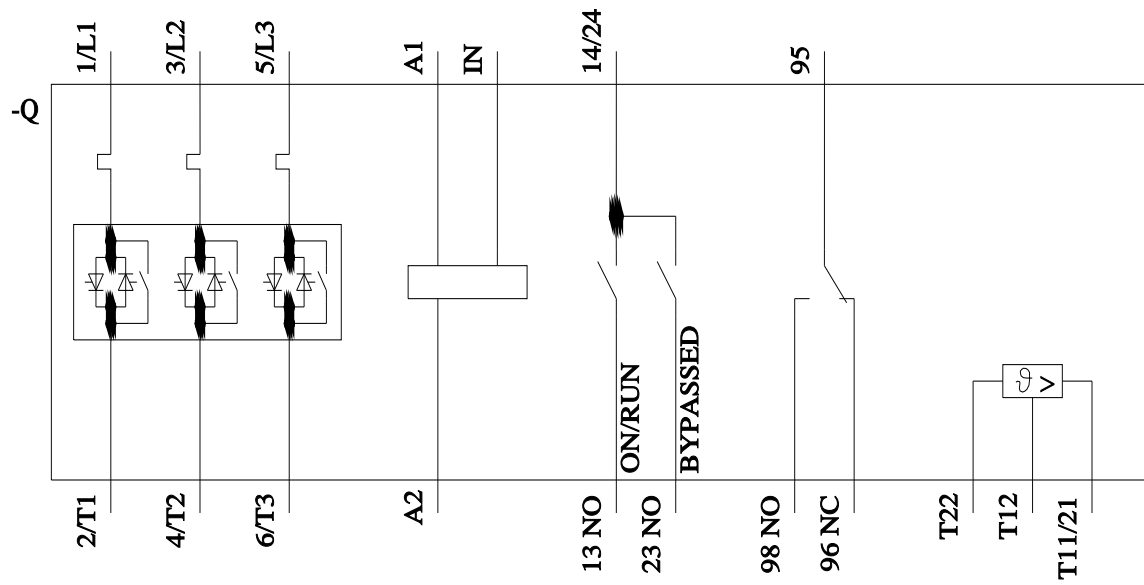
Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5226-3TC14&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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





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