SIEMENS

Data sheet

3RW5226-1AC14



SIRIUS soft starter 200-480 V 77 A, 110-250 V AC 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 	<u>3RW5980-0HS00</u>
 of high feature HMI module usable 	<u>3RW5980-0HF00</u>
 of communication module PROFINET standard usable 	<u>3RW5980-0CS00</u>
 of communication module PROFIBUS usable 	<u>3RW5980-0CP00</u>
 of communication module Modbus TCP usable 	<u>3RW5980-0CT00</u>
 of communication module Modbus RTU usable 	<u>3RW5980-0CR00</u>
 of communication module Ethernet/IP 	<u>3RW5980-0CE00</u>
 of circuit breaker usable at 400 V 	3VA2110-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V 	3VA2110-7MN32-0AA0; Type of coordination 1, Iq = 20 kA, CLASS 10
 of circuit breaker usable at 400 V at inside-delta circuit 	3VA2216-7MN32-0AA0: Type of coordination 1. lq = 65 kA. CLASS 10
 of circuit breaker usable at 500 V at inside-delta circuit 	<u>3VA2216-7MN32-0AA0; Type of coordination 1, Iq = 20 kA, CLASS 10</u>
 of the gG fuse usable up to 690 V 	3NA3132-6; Type of coordination 1. Iq = 65 kA
 of the gG fuse usable at inside-delta circuit up to 500 V 	<u>3NA3132-6; Type of coordination 1, Iq = 65 kA</u>
 of full range R fuse link for semiconductor protection usable up to 690 V 	<u>3NE1224-0; Type of coordination 2, Iq = 65 kA</u>
 of back-up R fuse link for semiconductor protection usable up to 690 V 	<u>3NE8024-1; Type of coordination 2, Iq = 65 kA</u>
eneral 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	Yes
UL approval	Yes
CSA approval	Yes
product component is supported	
HMI-Standard	Yes
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	CLASS TOA (default) / TOE / 20L, acc. to TEC 00347-4-2
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	600 V
between main and auxiliary circuit 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 reference code acc. to IEC 81346-2	_ AC 53a
Substance Prohibitance (Date)	15.02.2018 00:00:00
product function	Van
• 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
PROFlenergy	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 	22 kW
 at 230 V at inside-delta circuit at 40 °C rated value 	37 kW
 at 400 V at 40 °C rated value 	37 kW
 at 400 V at inside-delta circuit at 40 °C rated value 	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 	32 A
 at rotary coding switch on switch position 2 	35 A
 at rotary coding switch on switch position 3 	38 A
 at rotary coding switch on switch position 4 	41 A
 at rotary coding switch on switch position 5 	44 A
 at rotary coding switch on switch position 6 	47 A
 at rotary coding switch on switch position 7 	50 A
 at rotary coding switch on switch position 8 	53 A
 at rotary coding switch on switch position 9 	56 A
 at rotary coding switch on switch position 10 	59 A
 at rotary coding switch on switch position 11 	62 A
 at rotary coding switch on switch position 12 	65 A
 at rotary coding switch on switch position 13 	68 A
 at rotary coding switch on switch position 14 	71 A
 at rotary coding switch on switch position 15 	74 A
 at rotary coding switch on switch position 16 	77 A
minimum	32 A
adjustable motor current	
 for inside-delta circuit at rotary coding switch on switch position 1 	55.4 A
 for inside-delta circuit at rotary coding switch on switch position 2 	60.6 A
 for inside-delta circuit at rotary coding switch on switch position 3 	65.8 A
 for inside-delta circuit at rotary coding switch on switch position 4 	71 A
 for inside-delta circuit at rotary coding switch on switch position 5 	76.2 A
 for inside-delta circuit at rotary coding switch on switch position 6 	81.4 A
 for inside-delta circuit at rotary coding switch on switch position 7 	86.6 A
 for inside-delta circuit at rotary coding switch on switch position 8 	91.8 A
 for inside-delta circuit at rotary coding switch on switch position 9 	97 A
 for inside-delta circuit at rotary coding switch on switch position 10 	102 A
• for inside-delta circuit at rotary coding switch on switch position 11	107 A
 for inside-delta circuit at rotary coding switch on switch position 12 for inside delta circuit at ratary coding switch on 	113 A
 for inside-delta circuit at rotary coding switch on switch position 13 for inside delta circuit at rotary coding switch on 	118 A
 for inside-delta circuit at rotary coding switch on switch position 14 	123 A
 for inside-delta circuit at rotary coding switch on switch position 15 	128 A
 for inside-delta circuit at rotary coding switch on switch position 16 	133 A

 at inside-delta circuit minimum 	55.4 A
minimum load [%]	15 %; Relative to smallest settable le
power loss [W] for rated value of the current at AC	
• at 40 °C after startup	35 W
• at 50 °C after startup	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	020 W
	AC
type of voltage of the control supply voltage control supply voltage at AC	
• at 50 Hz	110 250 V
• at 50 Hz	110 250 V
relative negative tolerance of the control supply	-15 %
voltage at AC at 50 Hz	
relative positive tolerance of the control supply voltage at AC at 50 Hz	10 %
relative negative tolerance of the control supply voltage at AC at 60 Hz	-15 %
relative positive tolerance of the control supply voltage at AC at 60 Hz	10 %
control supply voltage frequency	50 60 Hz
relative negative tolerance of the control supply	-10 %
voltage frequency	
relative positive tolerance of the control supply voltage frequency	10 %
control supply current in standby mode rated value	30 mA
holding current in bypass operation rated value	75 mA
locked-rotor current at close of bypass contact maximum	2.5 A
inrush current peak at application of control supply voltage maximum	12.2 A
duration of inrush current peak at application of control supply voltage	2.2 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 inputs for thermistor connection	0
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 	box terminal
for control circuit	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 mm²)
 for main contacts for box terminal using the front clamping point finely stranded with core end processing 	1x (2.5 50 mm²)
 for main contacts for box terminal using the front clamping point stranded 	1x (10 70 mm²)
 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 mm²)
 at AWG cables for main contacts for box terminal using the back clamping point for main contacts for box terminal using both 	$1x (10 \dots 2/0)$
 for main contacts for box terminal using both clamping points solid 	2x (2.5 16 mm²)
 for main contacts for box terminal using both clamping points finely stranded with core end processing 	2x (2.5 35 mm²)
 for main contacts for box terminal using both clamping points stranded 	2x (6 16 mm²), 2x (10 50 mm²)
 for main contacts for box terminal using the back clamping point finely stranded with core end processing 	1x (2.5 50 mm²)
 for main contacts for box terminal using the back clamping point stranded 	1x (10 70 mm²)
type of connectable conductor cross-sections	
 for control circuit solid 	1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)
 for control circuit finely stranded with core end processing 	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
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
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
terminals	
tightening torque [lbf·in]	40 53 lbf.ip
 for main contacts with screw-type terminals for auxiliary and control contacts with screw-type 	40 53 lbf·in 7 10.3 lbf·in
• for auxiliary and control contacts with screw-type terminals	
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 	Yes
EtherNet/IP	Yes
Modbus RTU	Yes
Modbus TCP	Yes
PROFIBUS	Yes
UL/CSA ratings	
manufacturer's article number	
 of circuit breaker 	
 — usable for Standard Faults at 460/480 V according to UL 	Siemens type: 3VA51, max. 125 A; lq = 10 kA
 — usable for High Faults at 460/480 V according to UL 	Siemens type: 3VA51, max. 125 A; lq max = 65 kA
 — usable for Standard Faults at 460/480 V at inside-delta circuit according to UL 	Siemens type: 3VA51, max. 125 A; lq = 10 kA
 — usable for High Faults at 460/480 V at inside- delta circuit according to UL 	Siemens type: 3VA51, max. 125 A; lq max = 65 kA
— usable for Standard Faults at 575/600 V according to UL	Siemens type: 3VA51, max. 125 A; Iq = 10 kA
 — usable for Standard Faults at 575/600 V at inside-delta circuit according to UL 	Siemens type: 3VA51, max. 125 A; lq = 10 kA
• of the fuse	
 — usable for Standard Faults up to 575/600 V according to UL 	Type: Class RK5 / K5, max. 250 A; lq = 10 kA
 — usable for High Faults up to 575/600 V according to UL 	Type: Class J / L, max. 250 A; Iq = 100 kA
 — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class RK5 / K5, max. 250 A; lq = 10 kA
 — usable for High Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 250 A; Iq = 100 kA
operating power [hp] for 3-phase motors	
• at 200/208 V at 50 °C rated value	20 hp
 at 220/230 V at 50 °C rated value 	25 hp
 at 460/480 V at 50 °C rated value 	50 hp
 at 200/208 V at inside-delta circuit at 50 °C rated value 	30 hp
 at 220/230 V at inside-delta circuit at 50 °C rated value 	40 hp
• at 460/480 V at inside-delta circuit at 50 °C rated value	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
Test Certificates 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=3RW5226-1AC14

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5226-1AC14

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5226-1AC14

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5226-1AC14&lang=en

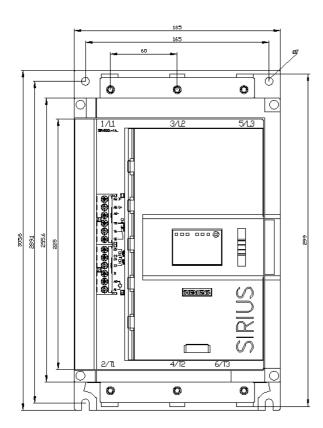
Characteristic: Tripping characteristics, I²t, Let-through current

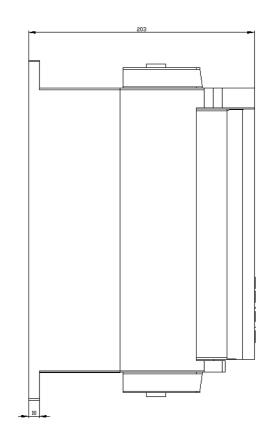
https://support.industry.siemens.com/cs/ww/en/ps/3RW5226-1AC14/char

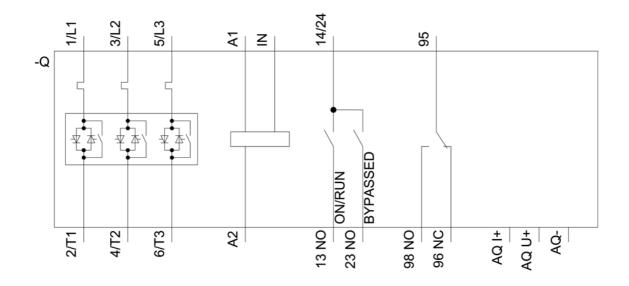
Characteristic: Installation altitude

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5226-1AC14&objecttype=14&gridview=view1 Simulation Tool for Soft Starters (STS)

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







last modified:

12/15/2020 🖸