



SIRIUS soft starter 200-600 V 470 A, 110-250 V AC spring-type terminals
Analog output

product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW52
manufacturer's article number	
<ul style="list-style-type: none"> • of standard HMI module usable 	3RW5980-0HS00
<ul style="list-style-type: none"> • of high feature HMI module usable 	3RW5980-0HF00
<ul style="list-style-type: none"> • of communication module PROFINET standard usable 	3RW5980-0CS00
<ul style="list-style-type: none"> • of communication module PROFIBUS usable 	3RW5980-0CP00
<ul style="list-style-type: none"> • of communication module Modbus TCP usable 	3RW5980-0CT00
<ul style="list-style-type: none"> • of communication module Modbus RTU usable 	3RW5980-0CR00
<ul style="list-style-type: none"> • of communication module Ethernet/IP 	3RW5980-0CE00
<ul style="list-style-type: none"> • of circuit breaker usable at 400 V 	3VA2450-7MN32-0AA0; Type of coordination 1, I _q = 65 kA, CLASS 10
<ul style="list-style-type: none"> • of circuit breaker usable at 500 V 	3VA2450-7MN32-0AA0; Type of coordination 1, I _q = 65 kA, CLASS 10
<ul style="list-style-type: none"> • of circuit breaker usable at 400 V at inside-delta circuit 	3VA2510-6HN32-0AA0; Type of coordination 1, I _q = 65 kA, CLASS 10
<ul style="list-style-type: none"> • of circuit breaker usable at 500 V at inside-delta circuit 	3VA2510-6HN32-0AA0; Type of coordination 1, I _q = 65 kA, CLASS 10
<ul style="list-style-type: none"> • of the gG fuse usable up to 690 V 	2x3NA3365-6; Type of coordination 1, I _q = 65 kA
<ul style="list-style-type: none"> • of the gG fuse usable at inside-delta circuit up to 500 V 	2x3NA3365-6; Type of coordination 1, I _q = 65 kA
<ul style="list-style-type: none"> • of full range R fuse link for semiconductor protection usable up to 690 V 	3NE1436-2; Type of coordination 2, I _q = 65 kA
<ul style="list-style-type: none"> • of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE3340-8; Type of coordination 2, I _q = 65 kA
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	
<ul style="list-style-type: none"> • CE marking 	Yes
<ul style="list-style-type: none"> • UL approval 	Yes
<ul style="list-style-type: none"> • CSA approval 	Yes
product component is supported	
<ul style="list-style-type: none"> • HMI-Standard 	Yes
<ul style="list-style-type: none"> • 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	
• 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	1 600 V
service factor	1
surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
• between main and auxiliary circuit	600 V
utilization category acc. to IEC 60947-4-2	AC 53a
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
reference code acc. to IEC 81346-2	Q
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	470 A
• at 50 °C rated value	416 A
• at 60 °C rated value	380 A
operational current at inside-delta circuit	
• at 40 °C rated value	814 A
• at 50 °C rated value	721 A
• at 60 °C rated value	658 A
operating voltage	
• rated value	200 ... 600 V
• at inside-delta circuit rated value	200 ... 600 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	10 %

inside-delta circuit	
operating power for 3-phase motors	
• at 230 V at 40 °C rated value	132 kW
• at 230 V at inside-delta circuit at 40 °C rated value	250 kW
• at 400 V at 40 °C rated value	250 kW
• at 400 V at inside-delta circuit at 40 °C rated value	400 kW
• at 500 V at 40 °C rated value	315 kW
• at 500 V at inside-delta circuit at 40 °C rated value	500 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	200 A
• at rotary coding switch on switch position 2	218 A
• at rotary coding switch on switch position 3	236 A
• at rotary coding switch on switch position 4	254 A
• at rotary coding switch on switch position 5	272 A
• at rotary coding switch on switch position 6	290 A
• at rotary coding switch on switch position 7	308 A
• at rotary coding switch on switch position 8	326 A
• at rotary coding switch on switch position 9	344 A
• at rotary coding switch on switch position 10	362 A
• at rotary coding switch on switch position 11	380 A
• at rotary coding switch on switch position 12	398 A
• at rotary coding switch on switch position 13	416 A
• at rotary coding switch on switch position 14	434 A
• at rotary coding switch on switch position 15	452 A
• at rotary coding switch on switch position 16	470 A
• minimum	200 A
adjustable motor current	
• for inside-delta circuit at rotary coding switch on switch position 1	346 A
• for inside-delta circuit at rotary coding switch on switch position 2	378 A
• for inside-delta circuit at rotary coding switch on switch position 3	409 A
• for inside-delta circuit at rotary coding switch on switch position 4	440 A
• for inside-delta circuit at rotary coding switch on switch position 5	471 A
• for inside-delta circuit at rotary coding switch on switch position 6	502 A
• for inside-delta circuit at rotary coding switch on switch position 7	533 A
• for inside-delta circuit at rotary coding switch on switch position 8	565 A
• for inside-delta circuit at rotary coding switch on switch position 9	596 A
• for inside-delta circuit at rotary coding switch on switch position 10	627 A
• for inside-delta circuit at rotary coding switch on switch position 11	658 A
• for inside-delta circuit at rotary coding switch on switch position 12	689 A
• for inside-delta circuit at rotary coding switch on switch position 13	721 A
• for inside-delta circuit at rotary coding switch on switch position 14	752 A
• for inside-delta circuit at rotary coding switch on switch position 15	783 A
• for inside-delta circuit at rotary coding switch on	814 A

switch position 16	
<ul style="list-style-type: none"> at inside-delta circuit minimum 	346 A
minimum load [%]	15 %; Relative to smallest settable I _e
power loss [W] for rated value of the current at AC	
<ul style="list-style-type: none"> at 40 °C after startup 	153 W
<ul style="list-style-type: none"> at 50 °C after startup 	137 W
<ul style="list-style-type: none"> at 60 °C after startup 	126 W
power loss [W] at AC at current limitation 350 %	
<ul style="list-style-type: none"> at 40 °C during startup 	7 903 W
<ul style="list-style-type: none"> at 50 °C during startup 	6 604 W
<ul style="list-style-type: none"> at 60 °C during startup 	5 794 W
Control circuit/ Control	
type of voltage of the control supply voltage	AC
<ul style="list-style-type: none"> control supply voltage at AC at 50 Hz 	110 ... 250 V
<ul style="list-style-type: none"> control supply voltage at AC at 60 Hz 	110 ... 250 V
relative negative tolerance of the control supply voltage at AC at 50 Hz	-15 %
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 voltage frequency	-10 %
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	100 mA
locked-rotor current at close of bypass contact maximum	2.2 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 (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 inputs for thermistor connection	0
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	1
switching capacity current of the relay outputs	
<ul style="list-style-type: none"> at AC-15 at 250 V rated value 	3 A
<ul style="list-style-type: none"> 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	393 mm
width	210 mm
depth	203 mm
required spacing with side-by-side mounting	
<ul style="list-style-type: none"> forwards 	10 mm
<ul style="list-style-type: none"> backwards 	0 mm
<ul style="list-style-type: none"> upwards 	100 mm

<ul style="list-style-type: none"> • downwards 	75 mm
<ul style="list-style-type: none"> • at the side 	5 mm
weight without packaging	9.9 kg
Connections/ Terminals	
type of electrical connection <ul style="list-style-type: none"> • for main current circuit • for control circuit 	busbar connection spring-loaded terminals
width of connection bar maximum	45 mm
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 mm ²) 2x (70 ... 240 mm ²)
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 • at AWG cables for control circuit finely stranded with core end processing 	2x (0.25 ... 1.5 mm ²) 2x (0.25 ... 1.5 mm ²) 2x (24 ... 16) 2x (24 ... 16)
wire length <ul style="list-style-type: none"> • between soft starter and motor maximum • at the digital inputs at AC maximum 	800 m 100 m
tightening torque <ul style="list-style-type: none"> • 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] <ul style="list-style-type: none"> • 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 catalog
<ul style="list-style-type: none"> • ambient temperature during operation 	-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above
<ul style="list-style-type: none"> • ambient temperature during storage and transport 	-40 ... +80 °C
environmental category <ul style="list-style-type: none"> • during operation acc. to IEC 60721 • during storage acc. to IEC 60721 • during transport acc. 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)
EMC emitted interference	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 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 	Type: Class J / L, max. 1600 A; Iq = 30 kA Type: Class J / L, max. 1200 A; Iq = 100 kA Type: Class J / L, max. 1600 A; Iq = 30 kA Type: Class J / L, max. 1200 A; Iq = 100 kA
operating power [hp] for 3-phase motors	

• at 200/208 V at 50 °C rated value	150 hp
• at 220/230 V at 50 °C rated value	150 hp
• at 460/480 V at 50 °C rated value	350 hp
• at 575/600 V at 50 °C rated value	450 hp
• at 200/208 V at inside-delta circuit at 50 °C rated value	250 hp
• at 220/230 V at inside-delta circuit at 50 °C rated value	250 hp
• at 460/480 V at inside-delta circuit at 50 °C rated value	600 hp
• at 575/600 V at inside-delta circuit at 50 °C rated value	800 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



[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping

other



[Confirmation](#)

[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=3RW5247-2AC15>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5247-2AC15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5247-2AC15>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5247-2AC15&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

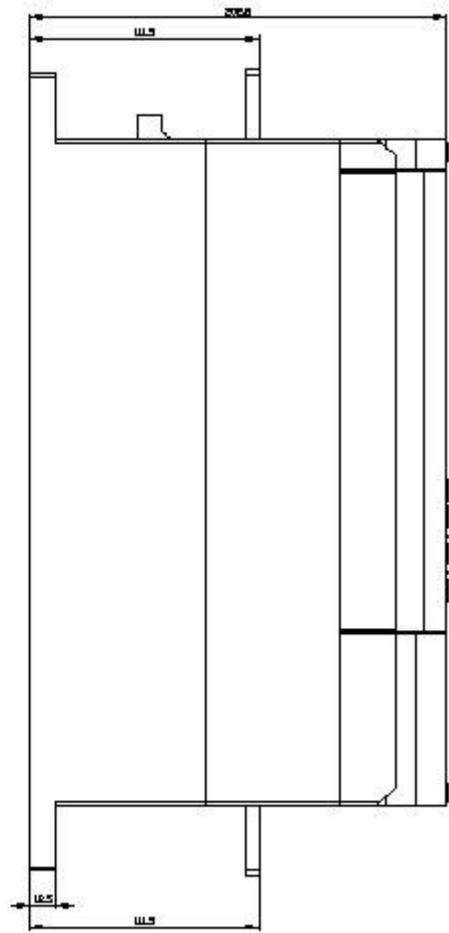
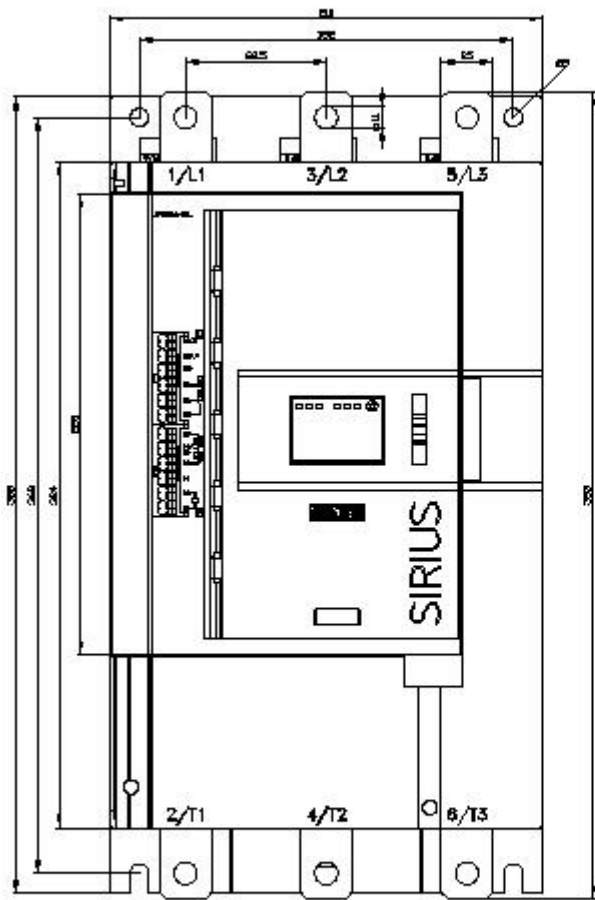
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5247-2AC15/char>

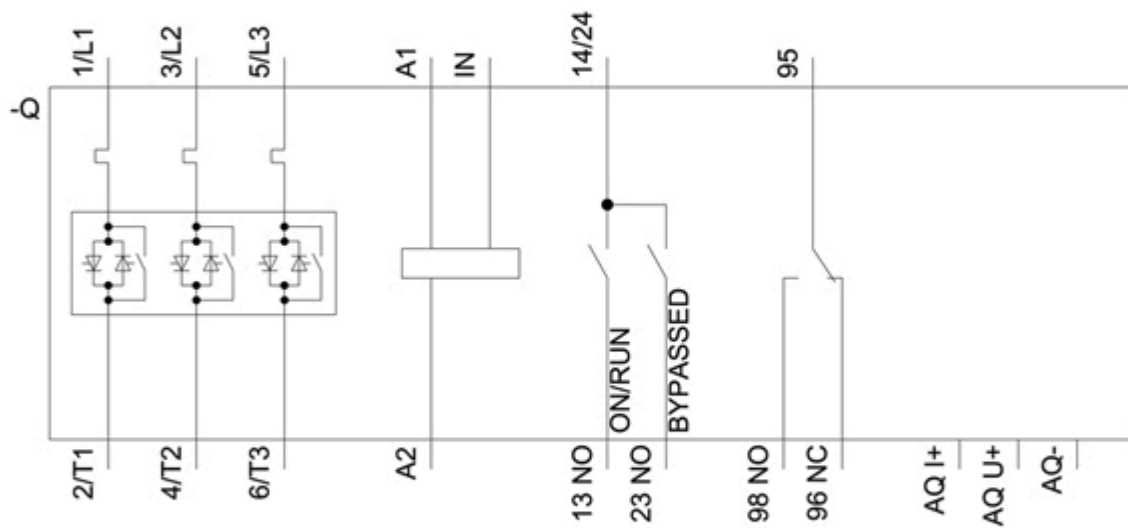
Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5247-2AC15&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 