

Siemens
EcoTech



SIRIUS soft starter 200-480 V 470 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	<ul style="list-style-type: none"> of standard HMI module usable 3RW5980-0HS00 of high feature HMI module usable 3RW5980-0HF00 of communication module PROFINET standard usable 3RW5980-0CS00 of communication module PROFIBUS usable 3RW5980-0CP00 of communication module Modbus TCP usable 3RW5980-0CT00 of communication module Modbus RTU usable 3RW5980-0CR00 of communication module Ethernet/IP 3RW5980-0CE00 of circuit breaker usable at 400 V 3VA2450-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 of circuit breaker usable at 500 V 3VA2450-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 of circuit breaker usable at 400 V at inside-delta circuit 3VA2510-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 of circuit breaker usable at 500 V at inside-delta circuit 3VA2510-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 of the gG fuse usable up to 690 V 2x3NA3365-6; Type of coordination 1, Iq = 65 kA of the gG fuse usable at inside-delta circuit up to 500 V 2x3NA3365-6; Type of coordination 1, Iq = 65 kA of full range R fuse link for semiconductor protection usable up to 690 V 3NE1436-2; Type of coordination 2, Iq = 65 kA of back-up R fuse link for semiconductor protection usable up to 690 V 3NE3340-8; Type of coordination 2, Iq = 65 kA
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	<ul style="list-style-type: none"> CE marking Yes UL approval Yes CSA approval Yes
product component	<ul style="list-style-type: none"> 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
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	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 protective separation <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
utilization category according to IEC 60947-4-2	AC 53a
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	02/15/2018
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 Dibutylbis(pentane-2,4-dionato-O,O')tin - 22673-19-4
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 • 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 • firmware update • removable terminal for control circuit • torque control • analog output 	Yes Yes Yes Yes Yes Yes Yes; Electronic motor overload protection No 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 Yes No Yes; 4 ... 20 mA (default) / 0 ... 10 V (parameterizable with High Feature HMI)
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 	470 A 416 A 380 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 	814 A 721 A 658 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 	132 kW 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
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 switch position 16	814 A
• 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	
• at 40 °C after startup	153 W
• at 50 °C after startup	137 W
• at 60 °C after startup	126 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup	7 903 W
• at 50 °C during startup	6 604 W

• at 60 °C during startup	5 794 W
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
• at 50 Hz	110 ... 250 V
• 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
inrush current by closing the bypass contacts 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 (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	393 mm
width	210 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	9.9 kg
Connections/ Terminals	
type of electrical connection	
• for main current circuit	busbar connection
• for control circuit	screw-type terminals
width of connection bar maximum	45 mm
type of connectable conductor cross-sections	
• for DIN cable lug for main contacts stranded	2x (50 ... 240 mm²)
• for DIN cable lug for main contacts finely stranded	2x (70 ... 240 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)

<ul style="list-style-type: none"> for AWG cables for control circuit solid 	1x (20 ... 12), 2x (20 ... 14)
wire length	
<ul style="list-style-type: none"> between soft starter and motor maximum 	800 m
<ul style="list-style-type: none"> at the digital inputs at AC maximum 	100 m
tightening torque	
<ul style="list-style-type: none"> for main contacts with screw-type terminals 	14 ... 24 N·m
<ul style="list-style-type: none"> for auxiliary and control contacts with screw-type terminals 	0.8 ... 1.2 N·m
tightening torque [lbf·in]	
<ul style="list-style-type: none"> for main contacts with screw-type terminals 	124 ... 210 lbf·in
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> during operation 	-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above
<ul style="list-style-type: none"> during storage and transport 	-40 ... +80 °C
environmental category	
<ul style="list-style-type: none"> during operation according to IEC 60721 	3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
<ul style="list-style-type: none"> during storage according to IEC 60721 	1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4
<ul style="list-style-type: none"> during transport according to IEC 60721 	2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)
Environmental footprint	
Siemens Eco Profile (SEP)	Siemens EcoTech
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 	Yes
<ul style="list-style-type: none"> EtherNet/IP 	Yes
<ul style="list-style-type: none"> Modbus RTU 	Yes
<ul style="list-style-type: none"> Modbus TCP 	Yes
<ul style="list-style-type: none"> PROFIBUS 	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 	Type: Class J / L, max. 1600 A; Iq = 30 kA
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — usable for High Faults up to 575/600 V according to UL 	Type: Class J / L, max. 1200 A; Iq = 100 kA
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 1600 A; Iq = 30 kA
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — usable for High Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 1200 A; Iq = 100 kA
operating power [hp] for 3-phase motors	
<ul style="list-style-type: none"> at 200/208 V at 50 °C rated value 	150 hp
<ul style="list-style-type: none"> at 220/230 V at 50 °C rated value 	150 hp
<ul style="list-style-type: none"> at 460/480 V at 50 °C rated value 	350 hp
<ul style="list-style-type: none"> at 200/208 V at inside-delta circuit at 50 °C rated value 	250 hp
<ul style="list-style-type: none"> at 220/230 V at inside-delta circuit at 50 °C rated value 	250 hp
<ul style="list-style-type: none"> at 460/480 V at inside-delta circuit at 50 °C rated value 	600 hp
contact rating of auxiliary contacts according to UL	R300-B300
Electrical Safety	
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
Approvals Certificates	
General Product Approval	



[Confirmation](#)



EMV	Test Certificates	Marine / Shipping
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[KC](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other	Environment
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[Confirmation](#)

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[Environmental Confirmations](#)

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=3RW5247-6AC14>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5247-6AC14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5247-6AC14>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5247-6AC14&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

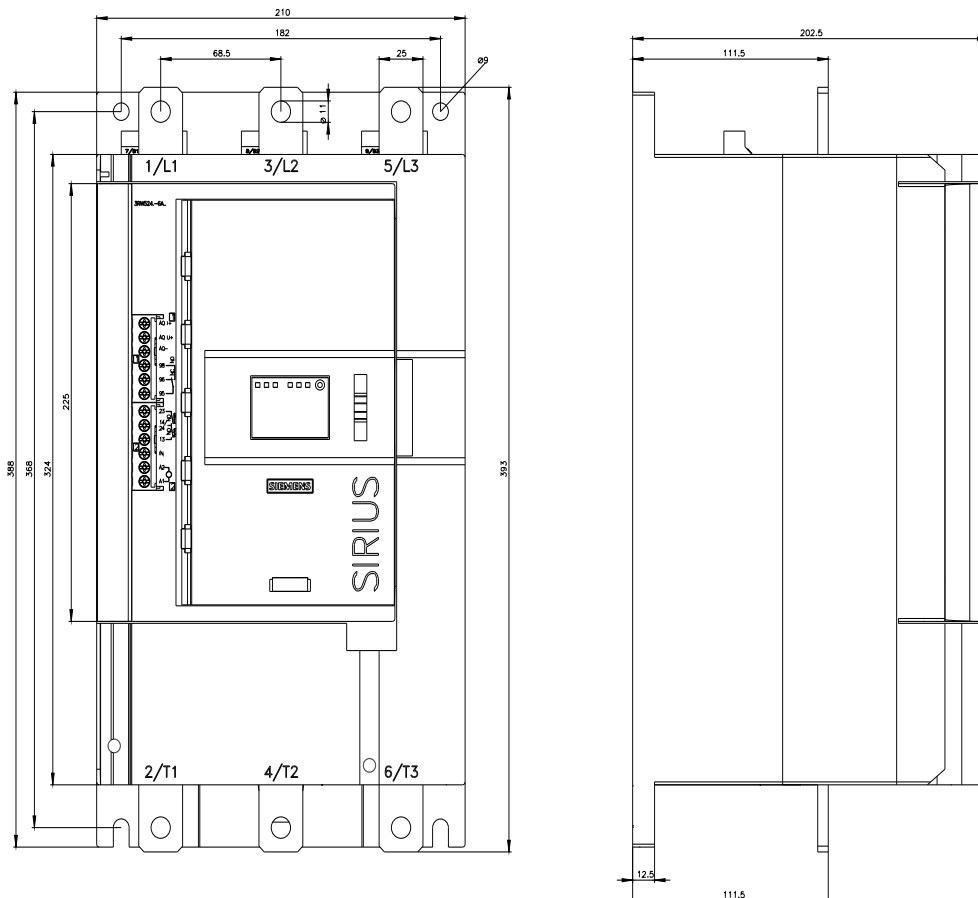
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5247-6AC14/char>

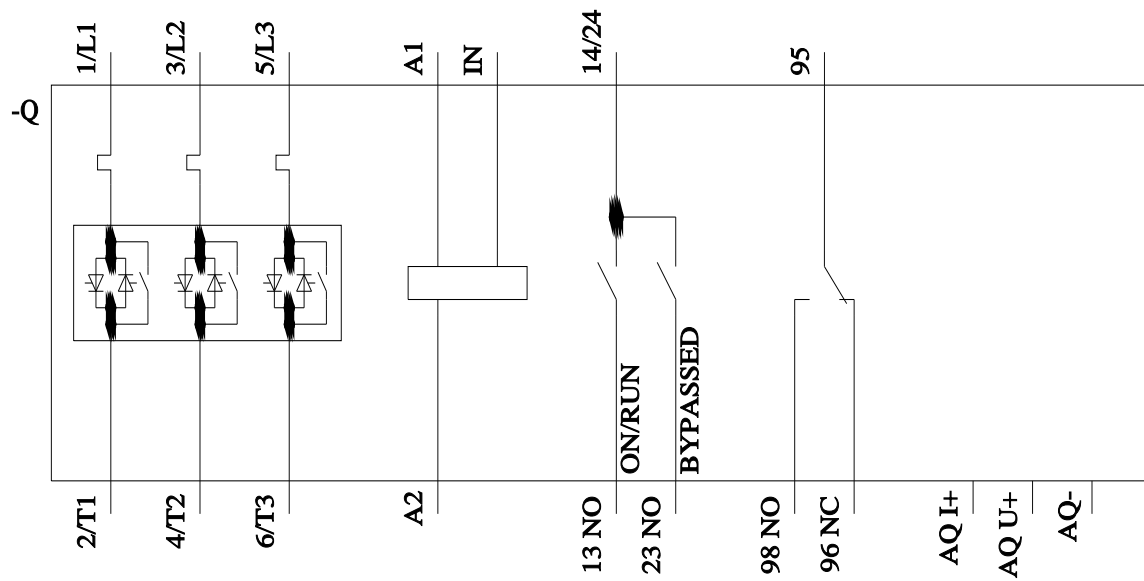
Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5247-6AC14&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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





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