

Siemens
EcoTech



SIRIUS soft starter 200-480 V 570 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	<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 3VA2580-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10• of circuit breaker usable at 500 V 3VA2580-6HN32-0AA0; 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 3NE1437-2; 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
	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 	570 A 504 A 460 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 	987 A 873 A 796 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 	160 kW 315 kW

<ul style="list-style-type: none"> • at 400 V at 40 °C rated value 	315 kW
<ul style="list-style-type: none"> • at 400 V at inside-delta circuit at 40 °C rated value 	560 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	
<ul style="list-style-type: none"> • at rotary coding switch on switch position 1 	240 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 2 	262 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 3 	284 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 4 	306 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 5 	328 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 6 	350 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 7 	372 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 8 	394 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 9 	416 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 10 	438 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 11 	460 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 12 	482 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 13 	504 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 14 	526 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 15 	548 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 16 	570 A
<ul style="list-style-type: none"> • minimum 	240 A
adjustable motor current	
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 1 	416 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 2 	454 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 3 	492 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 4 	530 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 5 	568 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 6 	606 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 7 	644 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 8 	682 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 9 	721 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 10 	759 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 11 	797 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 12 	835 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 13 	873 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 14 	911 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 15 	949 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 16 	987 A
<ul style="list-style-type: none"> • at inside-delta circuit minimum 	416 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 	183 W
<ul style="list-style-type: none"> • at 50 °C after startup 	163 W
<ul style="list-style-type: none"> • at 60 °C after startup 	153 W
power loss [W] at AC at current limitation 350 %	
<ul style="list-style-type: none"> • at 40 °C during startup 	10 241 W
<ul style="list-style-type: none"> • at 50 °C during startup 	8 500 W

• at 60 °C during startup	7 663 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	470 mA
inrush current by closing the bypass contacts 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	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	10.6 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)
• for 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	14 ... 24 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	124 ... 210 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 according 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 according to IEC 60721	1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4
• 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	
• PROFINET standard	Yes
• EtherNet/IP	Yes
• Modbus RTU	Yes
• Modbus TCP	Yes
• PROFIBUS	Yes
UL/CSA ratings	
manufacturer's article number	
• of the fuse	
— usable for Standard Faults up to 575/600 V according to UL	Type: Class J / L, max. 1600 A; Iq = 30 kA
— usable for High Faults up to 575/600 V according to UL	Type: Class J / L, max. 1200 A; Iq = 100 kA
— 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
— 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	
• at 200/208 V at 50 °C rated value	150 hp
• at 220/230 V at 50 °C rated value	200 hp
• at 460/480 V at 50 °C rated value	400 hp
• at 200/208 V at inside-delta circuit at 50 °C rated value	300 hp
• at 220/230 V at inside-delta circuit at 50 °C rated value	350 hp
• at 460/480 V at inside-delta circuit at 50 °C rated value	750 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

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[Type Test Certificates/Test Report](#)



Marine / Shipping

other

Environment



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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=3RW5248-6AC04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5248-6AC04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5248-6AC04>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5248-6AC04&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5248-6AC04/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5248-6AC04&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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



