

Siemens
EcoTech



SIRIUS soft starter 200-480 V 63 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 • of high feature HMI module usable • of communication module PROFINET standard usable • of communication module PROFIBUS usable • of communication module Modbus TCP usable • of communication module Modbus RTU usable • of communication module Ethernet/IP • of circuit breaker usable at 400 V • of circuit breaker usable at 500 V • of circuit breaker usable at 400 V at inside-delta circuit • of circuit breaker usable at 500 V at inside-delta circuit • of the gG fuse usable up to 690 V • of the gG fuse usable at inside-delta circuit up to 500 V • of full range R fuse link for semiconductor protection usable up to 690 V • of back-up R fuse link for semiconductor protection usable up to 690 V 	3RW5980-0HS00 3RW5980-0HF00 3RW5980-0CS00 3RW5980-0CP00 3RW5980-0CT00 3RW5980-0CR00 3RW5980-0CE00 3VA2163-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 3VA2163-7MN32-0AA0; Type of coordination 1, Iq = 20 kA, CLASS 10 3VA2110-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 3VA2110-7MN32-0AA0; Type of coordination 1, Iq = 20 kA, CLASS 10 3NA3830-6; Type of coordination 1, Iq = 65 kA 3NA3830-6; Type of coordination 1, Iq = 65 kA 3NE1022-0; Type of coordination 2, Iq = 65 kA 3NE8024-1; 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 • UL approval • CSA approval 	Yes Yes Yes
product component	
<ul style="list-style-type: none"> • HMI-High Feature • is supported HMI-Standard • is supported HMI-High Feature 	No Yes 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	1 400 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 	63 A 55.5 A 50.5 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 	109 A 96 A 87.5 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 	18.5 kW 30 kW

• at 400 V at 40 °C rated value	30 kW
• at 400 V at inside-delta circuit at 40 °C rated value	55 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	25.5 A
• at rotary coding switch on switch position 2	28 A
• at rotary coding switch on switch position 3	30.5 A
• at rotary coding switch on switch position 4	33 A
• at rotary coding switch on switch position 5	35.5 A
• at rotary coding switch on switch position 6	38 A
• at rotary coding switch on switch position 7	40.5 A
• at rotary coding switch on switch position 8	43 A
• at rotary coding switch on switch position 9	45.5 A
• at rotary coding switch on switch position 10	48 A
• at rotary coding switch on switch position 11	50.5 A
• at rotary coding switch on switch position 12	53 A
• at rotary coding switch on switch position 13	55.5 A
• at rotary coding switch on switch position 14	58 A
• at rotary coding switch on switch position 15	60.5 A
• at rotary coding switch on switch position 16	63 A
• minimum	25.5 A
adjustable motor current	
• for inside-delta circuit at rotary coding switch on switch position 1	44.2 A
• for inside-delta circuit at rotary coding switch on switch position 2	48.5 A
• for inside-delta circuit at rotary coding switch on switch position 3	52.8 A
• for inside-delta circuit at rotary coding switch on switch position 4	57.2 A
• for inside-delta circuit at rotary coding switch on switch position 5	61.5 A
• for inside-delta circuit at rotary coding switch on switch position 6	65.8 A
• for inside-delta circuit at rotary coding switch on switch position 7	70.1 A
• for inside-delta circuit at rotary coding switch on switch position 8	74.5 A
• for inside-delta circuit at rotary coding switch on switch position 9	78.8 A
• for inside-delta circuit at rotary coding switch on switch position 10	83.1 A
• for inside-delta circuit at rotary coding switch on switch position 11	87.5 A
• for inside-delta circuit at rotary coding switch on switch position 12	91.8 A
• for inside-delta circuit at rotary coding switch on switch position 13	96.1 A
• for inside-delta circuit at rotary coding switch on switch position 14	100 A
• for inside-delta circuit at rotary coding switch on switch position 15	105 A
• for inside-delta circuit at rotary coding switch on switch position 16	109 A
• at inside-delta circuit minimum	44.2 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	31 W
• at 50 °C after startup	29 W
• at 60 °C after startup	27 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup	882 W
• at 50 °C during startup	744 W

• at 60 °C during startup	659 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	380 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	+/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface
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	
<ul style="list-style-type: none"> • using the front clamping point solid 	1x (2.5 ... 16 mm ²)
<ul style="list-style-type: none"> • using the front clamping point finely stranded with core end processing 	1x (2.5 ... 50 mm ²)
<ul style="list-style-type: none"> • using the front clamping point stranded 	1x (10 ... 70 mm ²)
<ul style="list-style-type: none"> • using the back clamping point solid 	1x (2.5 ... 16 mm ²)
<ul style="list-style-type: none"> • r box terminal using the back clamping point 	1x (10 ... 2/0)
<ul style="list-style-type: none"> • using both clamping points solid 	2x (2.5 ... 16 mm ²)
<ul style="list-style-type: none"> • using both clamping points finely stranded with core end processing 	2x (2.5 ... 35 mm ²)
<ul style="list-style-type: none"> • using both clamping points stranded 	2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²)
<ul style="list-style-type: none"> • using the back clamping point finely stranded with core end processing 	1x (2.5 ... 50 mm ²)
<ul style="list-style-type: none"> • using the back clamping point stranded 	1x (10 ... 70 mm ²)
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for control circuit solid 	1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²)
<ul style="list-style-type: none"> • for control circuit finely stranded with core end processing 	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²)
<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
<ul style="list-style-type: none"> • at the digital inputs at DC maximum 	1 000 m
tightening torque	
<ul style="list-style-type: none"> • for main contacts with screw-type terminals 	4.5 ... 6 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 	40 ... 53 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 circuit breaker usable for Standard Faults <ul style="list-style-type: none"> — at 460/480 V according to UL — 60/480 V according to UL — at 460/480 V at inside-delta circuit according to UL — 60/480 V at inside-delta circuit according to UL — at 575/600 V according to UL — at 575/600 V at inside-delta circuit according to UL • of the fuse <ul style="list-style-type: none"> — usable for Standard Faults up to 575/600 V 	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 125 A; Iq = 10 kA Siemens type: 3VA51, max. 125 A; Iq max = 65 kA Siemens type: 3VA51, max. 125 A; Iq = 10 kA Siemens type: 3VA51, max. 125 A; Iq max = 65 kA Siemens type: 3RV2742, max. 70 A or 3VA51, max. 125 A; Iq = 10 kA Siemens type: 3VA51, max. 125 A; Iq = 10 kA Type: Class RK5 / K5, max. 200 A; Iq = 10 kA

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. 225 A; Iq = 100 kA Type: Class RK5 / K5, max. 200 A; Iq = 10 kA Type: Class J / L, max. 225 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 • 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 	15 hp 20 hp 40 hp 30 hp 30 hp 75 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
	KC Type Test Certificates/Test Report	

Marine / Shipping	other	Environment
	Confirmation	

[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=3RW5225-1AC04>
Cax online generator
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5225-1AC04>
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5225-1AC04>
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5225-1AC04&lang=en
Characteristic: Tripping characteristics, I_t, Let-through current
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5225-1AC04/char>
Characteristic: Installation altitude
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5225-1AC04&objecttype=14&gridview=view1>
Simulation Tool for Soft Starters (STS)
<https://support.industry.siemens.com/cs/ww/en/view/101494917>



