



SIRIUS soft starter 200-600 V 63 A, 24 V AC/DC spring-type terminals Thermistor input

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 • 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	
• CE marking • UL approval • CSA approval	Yes Yes Yes
product component	
• 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	
• 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	1 800 V
service factor	1
surge voltage resistance rated value	6 kV
maximum permissible voltage for protective separation	
• between main and auxiliary circuit	600 V
shock resistance	15 g / 11 ms, from 12 g / 11 ms with potential contact lifting
vibration resistance	15 mm to 6 Hz; 2 g to 500 Hz
utilization category according to IEC 60947-4-2	AC 53a
reference code according to IEC 81346-2	Q
Substance Prohibitance (day/month/year)	02/15/2018
SVHC substance name	Lead CAS-No. 7439-92-1 Lead monoxide (lead oxide) CAS-No. 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol CAS-No. 79-94-7 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5 Melamine CAS-No. 108-78-1 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol CAS-No. 119-47-1 Dibutylbis(pentane-2,4-dionato-O,O')tin CAS-No. 22673-19-4 Diboron trioxide CAS-No. 1303-86-2
Net Weight	5.2 kg
product function	
• ramp-up (soft starting)	Yes
• soft stopping	Yes
• Soft Torque	Yes
• adjustable current limitation	Yes
• pump stop	Yes
• intrinsic device protection	Yes
• motor overload protection	Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)
• evaluation of thermistor motor protection	Yes; Type A PTC or Klaxon / Thermoclick
• 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	No
Power Electronics	
operational current	
• at 40 °C rated value	63 A
• at 50 °C rated value	55.5 A
• at 60 °C rated value	50.5 A
operational current at inside-delta circuit	
• at 40 °C rated value	109 A
• at 50 °C rated value	96 A
• at 60 °C rated value	87.5 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 inside-delta circuit	10 %
operating power for 3-phase motors	
• at 230 V at 40 °C rated value	18.5 kW
• at 230 V at inside-delta circuit at 40 °C rated value	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
• at 500 V at 40 °C rated value	37 kW
• at 500 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	70.09 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	83.09 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	96.09 A

• for inside-delta circuit at rotary coding switch on switch position 14 • for inside-delta circuit at rotary coding switch on switch position 15 • for inside-delta circuit at rotary coding switch on switch position 16 • at inside-delta circuit minimum	100 A
	105 A
	109 A
	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 • at 50 °C after startup • at 60 °C after startup	31 W
	29 W
	27 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup • at 50 °C during startup • at 60 °C during startup	882 W
	744 W
	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 • at 60 Hz rated value	24 V
	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 (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 digital outputs	3
• not parameterizable	2
digital output version	2 normally-open contacts (NO) / 1 changeover contact (CO)
number of analog outputs	0
switching capacity current of the relay outputs	
• at AC-15 at 250 V rated value • at DC-13 at 24 V rated value	3 A
	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	spring-loaded terminals
width of connection bar maximum	25 mm
wire length for thermistor connection	
• with conductor cross-section = 0.5 mm ² maximum	50 m
• with conductor cross-section = 1.5 mm ² maximum	150 m
• with conductor cross-section = 2.5 mm ² maximum	250 m
type of connectable conductor cross-sections for main contacts for box terminal	
• using the front clamping point solid	1x (2.5 ... 16 mm ²)
• using the front clamping point finely stranded with core end processing	1x (2.5 ... 50 mm ²)
• using the front clamping point stranded	1x (10 ... 70 mm ²)
• using the back clamping point solid	1x (2.5 ... 16 mm ²)
• r box terminal using the back clamping point	1x (10 ... 2/0)
• using both clamping points solid	2x (2.5 ... 16 mm ²)
• using both clamping points finely stranded with core end processing	2x (2.5 ... 35 mm ²)
• using both clamping points stranded	2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²)
• using the back clamping point finely stranded with core end processing	1x (2.5 ... 50 mm ²)
• using the back clamping point stranded	1x (10 ... 70 mm ²)
type of connectable conductor cross-sections	
• for control circuit solid	2x (0.25 ... 1.5 mm ²)
• for control circuit finely stranded with core end processing	2x (0.25 ... 1.5 mm ²)
• for AWG cables for control circuit solid	2x (24 ... 16)
• for AWG cables for control circuit finely stranded with core end processing	2x (24 ... 16)
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	4.5 ... 6 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	40 ... 53 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
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

during transport according to IEC 60721	inside the devices), 1M4 2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)
Electromagnetic compatibility	
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 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 - 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	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 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	
- 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 575/600 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 - at 575/600 V at inside-delta circuit at 50 °C rated value	15 hp 20 hp 40 hp 50 hp 30 hp 30 hp 75 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	
Environmental Product Declaration	
- global warming potential [CO2 eq] / during manufacturing - global warming potential [CO2 eq] / during sales - global warming potential [CO2 eq] / during operation - global warming potential [CO2 eq] / after end of life - global warming potential [CO2 eq] / total	67.7 kg 1.84 kg 242 kg -15.7 kg 296 kg
Environment	General Product Approval

[Environmental Conformations](#)

Siemens
EcoTech



General Product Approval	EMV	Test Certificates	Maritime application
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[Type Test Certificates/Test Report](#)



Maritime application



[Confirmation](#)

[Confirmation](#)

other



Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RW5225-3TC05>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5225-3TC05>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5225-3TC05&lang=en

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5225-3TC05>

Characteristic curves

https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP='HAUPT'></mmp_prod_no>

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5225-3TC05/char>

Characteristic: Installation altitude

https://www.automation.siemens.com/bilddb/index.aspx?gridview=view2&objkey=G_NSB0_XX_01704&showdetail=true&view=Search

Simulation Tool for Soft Starters (STS)

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



