



SIRIUS soft starter 200-600 V 25 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	• 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 3RV2032-4EA10; Type of coordination 1, Iq = 65 kA, CLASS 10 • of circuit breaker usable at 500 V 3RV2032-4EA10; Type of coordination 1, Iq = 15 kA, CLASS 10 • of circuit breaker usable at 400 V at inside-delta circuit 3RV2032-4VA10; Type of coordination 1, Iq = 65 kA, CLASS 10 • of circuit breaker usable at 500 V at inside-delta circuit 3RV2032-4VA10; Type of coordination 1, Iq = 15 kA, CLASS 10 • of the gG fuse usable up to 690 V 3NA3822-6; Type of coordination 1, Iq = 65 kA • of the gG fuse usable at inside-delta circuit up to 500 V 3NA3822-6; Type of coordination 1, Iq = 65 kA • of full range R fuse link for semiconductor protection usable up to 690 V 3NE1817-0; Type of coordination 2, Iq = 65 kA • of back-up R fuse link for semiconductor protection usable up to 690 V 3NE8021-1; 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 Yes • UL approval Yes • CSA approval Yes
product component	• 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	
• 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 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-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 Perfluorobutane sulfonic acid (PFBS) and its salts CAS-No. - Diboron trioxide CAS-No. 1303-86-2
Net Weight	2.3 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; 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
• PROFenergy	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	25 A
• at 50 °C rated value	22.3 A
• at 60 °C rated value	19.6 A
operational current at inside-delta circuit	
• at 40 °C rated value	43.3 A
• at 50 °C rated value	39 A
• at 60 °C rated value	33.9 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	5.5 kW
• at 230 V at inside-delta circuit at 40 °C rated value	11 kW
• at 400 V at 40 °C rated value	11 kW
• at 400 V at inside-delta circuit at 40 °C rated value	18.5 kW
• at 500 V at 40 °C rated value	15 kW
• at 500 V at inside-delta circuit at 40 °C rated value	22 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	11.5 A
• at rotary coding switch on switch position 2	12.4 A
• at rotary coding switch on switch position 3	13.3 A
• at rotary coding switch on switch position 4	14.2 A
• at rotary coding switch on switch position 5	15.1 A
• at rotary coding switch on switch position 6	16 A
• at rotary coding switch on switch position 7	16.9 A
• at rotary coding switch on switch position 8	17.8 A
• at rotary coding switch on switch position 9	18.7 A
• at rotary coding switch on switch position 10	19.6 A
• at rotary coding switch on switch position 11	20.5 A
• at rotary coding switch on switch position 12	21.4 A
• at rotary coding switch on switch position 13	22.3 A
• at rotary coding switch on switch position 14	23.2 A
• at rotary coding switch on switch position 15	24.1 A
• at rotary coding switch on switch position 16	25 A
• minimum	11.5 A
adjustable motor current	
• for inside-delta circuit at rotary coding switch on switch position 1	19.9 A
• for inside-delta circuit at rotary coding switch on switch position 2	21.5 A
• for inside-delta circuit at rotary coding switch on switch position 3	23 A
• for inside-delta circuit at rotary coding switch on switch position 4	24.6 A
• for inside-delta circuit at rotary coding switch on switch position 5	26.2 A
• for inside-delta circuit at rotary coding switch on switch position 6	27.7 A
• for inside-delta circuit at rotary coding switch on switch position 7	29.3 A
• for inside-delta circuit at rotary coding switch on switch position 8	30.8 A
• for inside-delta circuit at rotary coding switch on switch position 9	32.4 A
• for inside-delta circuit at rotary coding switch on switch position 10	33.9 A
• for inside-delta circuit at rotary coding switch on switch position 11	35.5 A
• for inside-delta circuit at rotary coding switch on switch position 12	37.1 A
• for inside-delta circuit at rotary coding switch on switch position 13	38.6 A
• for inside-delta circuit at rotary coding switch on switch position 14	40.2 A

• for inside-delta circuit at rotary coding switch on switch position 15	41.7 A
• for inside-delta circuit at rotary coding switch on switch position 16	43.3 A
• at inside-delta circuit minimum	19.9 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	20 W
• at 50 °C after startup	19 W
• at 60 °C after startup	18 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup	376 W
• at 50 °C during startup	318 W
• at 60 °C during startup	278 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	360 mA
inrush current by closing the bypass contacts maximum	0.75 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	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	275 mm
width	170 mm

depth	152 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	2.1 kg
Connections/ Terminals	
type of electrical connection	
• for main current circuit	screw-type terminals
• for control circuit	screw-type terminals
type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (1.0 ... 2.5 mm ²), 2x (2.5 ... 10 mm ²)
— finely stranded with core end processing	2x (1.0 ... 2.5 mm ²), 2x (2.5 ... 6.0 mm ²)
• for AWG cables for main current circuit solid	2x (16 ... 12), 2x (14 ... 8)
type of connectable conductor cross-sections	
• for control circuit solid	1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²)
• for control circuit finely stranded with core end processing	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²)
• 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	2 ... 2.5 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	18 ... 22 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 inside the devices), 1M4
• during transport according to IEC 60721	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	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 80 A; I _q = 5 kA
— 60/480 V according to UL	Siemens type: 3RV2742, max. 40 A or 3VA51, max. 60 A; I _q max = 65 kA
— at 460/480 V at inside-delta circuit according to UL	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 80 A; I _q = 5 kA
— 60/480 V at inside-delta circuit according to UL	Siemens type: 3VA51, max. 60 A; I _q max = 65 kA

— 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. 80 A; Iq = 5 kA Siemens type: 3RV2742, max. 70 A or 3VA51, max. 80 A; Iq = 5 kA Type: Class RK5 / K5, max. 100 A; Iq = 5 kA Type: Class J / L, max. 100 A; Iq = 100 kA Type: Class RK5 / K5, max. 100 A; Iq = 5 kA Type: Class J / L, max. 100 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		5 hp 7.5 hp 15 hp 20 hp 10 hp 10 hp 25 hp 30 hp
contact rating of auxiliary contacts according to UL		R300-B300
Electrical Safety		
protection class IP on the front according to IEC 60529		IP20
touch protection on the front according to IEC 60529		finger-safe, for vertical contact from the front
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		37.2 kg 0.66 kg 152 kg -4.19 kg 185 kg
Environment		General Product Approval
Environmental Confirmations     		
General Product Approval	EMV	Test Certificates
   		Type Test Certificates/Test Report 
Maritime application	other	
   	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=3RW5215-1AC05>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5215-1AC05>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5215-1AC05&lang=en

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5215-1AC05>

Characteristic curves

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

Characteristic: Tripping characteristics, I^2t , Let-through current

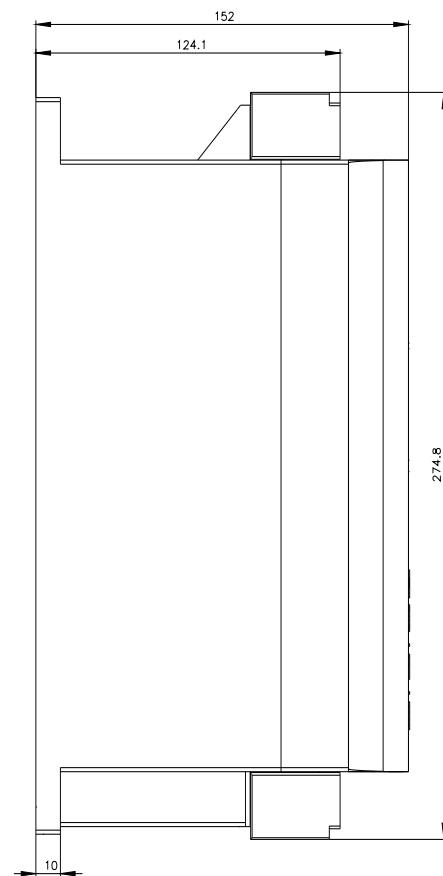
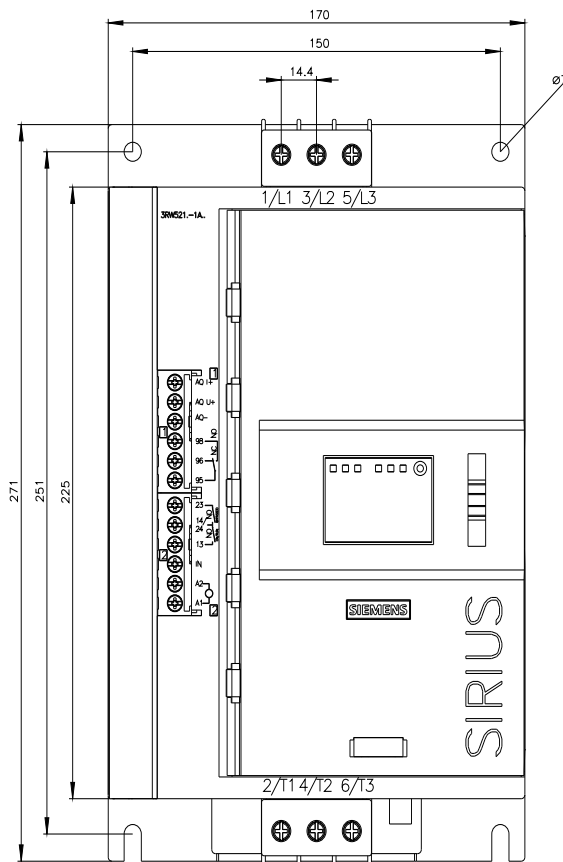
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5215-1AC05/char>

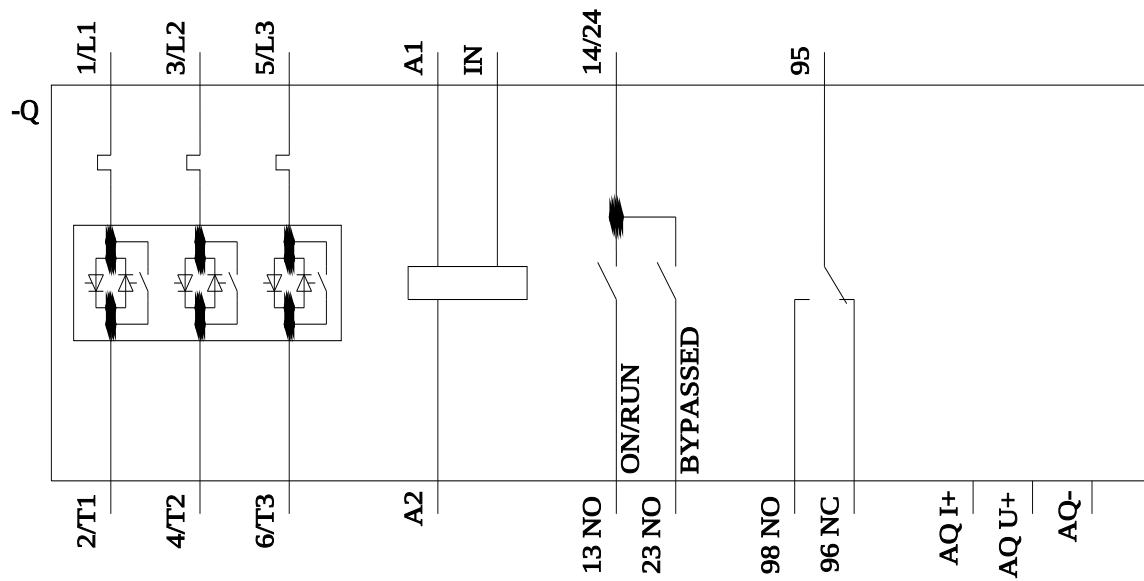
Characteristic: Installation altitude

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>





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