

Siemens
EcoTech



SIRIUS soft starter 200-480 V 18 A, 24 V AC/DC Screw terminals



product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW55
manufacturer's article number	<ul style="list-style-type: none"> • of high feature HMI module usable 3RW5980-0HF00 • of communication module PROFINET standard usable 3RW5980-0CS00 • of communication module PROFINET high-feature usable 3RW5950-0CH00 • 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 3RV2032-4DA10; Type of coordination 1, Iq = 65 kA, CLASS 10 • of circuit breaker usable at 500 V 3RV2032-4DA10; Type of coordination 1, Iq = 15 kA, CLASS 10 • of circuit breaker usable at 400 V at inside-delta circuit 3RV2032-4EA10; Type of coordination 1, Iq = 65 kA, CLASS 10 • of circuit breaker usable at 500 V at inside-delta circuit 3RV2032-4EA10; Type of coordination 1, Iq = 15 kA, CLASS 10 • of the gG fuse usable up to 690 V 3NA3820-6; Type of coordination 1, Iq = 65 kA • of the gG fuse usable at inside-delta circuit up to 500 V 3NA3820-6; Type of coordination 1, Iq = 65 kA • of full range R fuse link for semiconductor protection usable up to 690 V 3NE1802-0; Type of coordination 2, Iq = 65 kA • of back-up R fuse link for semiconductor protection usable up to 690 V 3NE8020-1; Type of coordination 2, Iq = 65 kA

General technical data	
starting voltage [%]	20 ... 100 %
stopping voltage [%]	50 %; non-adjustable
start-up ramp time of soft starter	0 ... 360 s
ramp-down time of soft starter	0 ... 360 s
start torque [%]	10 ... 100 %
stopping torque [%]	10 ... 100 %
torque limitation [%]	20 ... 200 %
current limiting value [%] adjustable	125 ... 800 %
breakaway voltage [%] adjustable	40 ... 100 %
breakaway time adjustable	0 ... 2 s
number of parameter sets	3
accuracy class	5 (based on IEC 61557-12)
certificate of suitability	
• CE marking	Yes

<ul style="list-style-type: none"> • UL approval 	Yes
<ul style="list-style-type: none"> • CSA approval 	Yes
product component	
<ul style="list-style-type: none"> • HMI-High Feature 	Yes
<ul style="list-style-type: none"> • is supported HMI-High Feature 	Yes
product feature integrated bypass contact system	Yes
number of controlled phases	3
current unbalance limiting value [%]	10 ... 60 %
ground-fault monitoring limiting value [%]	10 ... 95 %
buffering time in the event of power failure	
<ul style="list-style-type: none"> • for main current circuit 	100 ms
<ul style="list-style-type: none"> • for control circuit 	100 ms
idle time adjustable	0 ... 255 s
insulation voltage rated value	480 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	1.15
surge voltage resistance rated value	6 kV
maximum permissible voltage for protective separation	
<ul style="list-style-type: none"> • between main and auxiliary circuit 	480 V; does not apply for thermistor connection
shock resistance	15 g / 11 ms, from 6 g / 11 ms with potential contact lifting
vibration resistance	15 mm up to 6 Hz; 2 g up to 500 Hz
recovery time after overload trip adjustable	60 ... 1 800 s
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 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 Dibutylbis(pentane-2,4-dionato-O,O')tin - 22673-19-4 Lead titanium trioxide - 12060-00-3
Weight	3.2 kg
product function	
<ul style="list-style-type: none"> • ramp-up (soft starting) 	Yes
<ul style="list-style-type: none"> • ramp-down (soft stop) 	Yes
<ul style="list-style-type: none"> • breakaway pulse 	Yes
<ul style="list-style-type: none"> • adjustable current limitation 	Yes
<ul style="list-style-type: none"> • creep speed in both directions of rotation 	Yes
<ul style="list-style-type: none"> • pump ramp down 	Yes
<ul style="list-style-type: none"> • DC braking 	Yes
<ul style="list-style-type: none"> • motor heating 	Yes
<ul style="list-style-type: none"> • min/max pointer 	Yes
<ul style="list-style-type: none"> • trace function 	Yes
<ul style="list-style-type: none"> • intrinsic device protection 	Yes
<ul style="list-style-type: none"> • motor overload protection 	Yes; Full motor protection (thermistor motor protection and electronic motor overload protection) / When using the motor overload protection according to ATEX, an upstream contactor is required in inside-delta circuit.
<ul style="list-style-type: none"> • evaluation of thermistor motor protection 	Yes; Type A PTC or Klixon / Thermoclick
<ul style="list-style-type: none"> • inside-delta circuit 	Yes
<ul style="list-style-type: none"> • auto-RESET 	Yes
<ul style="list-style-type: none"> • manual RESET 	Yes
<ul style="list-style-type: none"> • remote reset 	Yes
<ul style="list-style-type: none"> • communication function 	Yes
<ul style="list-style-type: none"> • operating measured value display 	Yes
<ul style="list-style-type: none"> • event list 	Yes
<ul style="list-style-type: none"> • error logbook 	Yes
<ul style="list-style-type: none"> • via software parameterizable 	Yes
<ul style="list-style-type: none"> • via software configurable 	Yes
<ul style="list-style-type: none"> • screw terminal 	Yes

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	420 mA
holding current in bypass operation rated value	820 mA
inrush current by closing the bypass contacts maximum	0.91 A
inrush current peak at application of control supply voltage maximum	7.5 A
duration of inrush current peak at application of control supply voltage	20 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	4
<ul style="list-style-type: none"> parameterizable 	4
<ul style="list-style-type: none"> number of digital outputs 	4
<ul style="list-style-type: none"> number of digital outputs parameterizable 	3
<ul style="list-style-type: none"> number of digital outputs not parameterizable 	1
digital output version	3 normally-open contacts (NO) / 1 changeover contact (CO)
number of analog outputs	1
switching capacity current of the relay outputs	
<ul style="list-style-type: none"> at AC-15 at 250 V rated value 	3 A
<ul style="list-style-type: none"> at DC-13 at 24 V rated value 	1 A

Installation/ mounting/ dimensions

mounting position	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)
fastening method	screw fixing
height	275 mm
width	170 mm
depth	152 mm
required spacing with side-by-side mounting	
<ul style="list-style-type: none"> forwards 	10 mm
<ul style="list-style-type: none"> backwards 	0 mm
<ul style="list-style-type: none"> upwards 	100 mm
<ul style="list-style-type: none"> downwards 	75 mm
<ul style="list-style-type: none"> at the side 	5 mm
weight without packaging	2.3 kg

Connections/ Terminals

type of electrical connection	
<ul style="list-style-type: none"> for main current circuit 	screw-type terminals
<ul style="list-style-type: none"> for control circuit 	screw-type terminals
wire length for thermistor connection	
<ul style="list-style-type: none"> with conductor cross-section = 0.5 mm² maximum 	50 m
<ul style="list-style-type: none"> with conductor cross-section = 1.5 mm² maximum 	150 m
<ul style="list-style-type: none"> with conductor cross-section = 2.5 mm² maximum 	250 m

type of connectable conductor cross-sections	
<ul style="list-style-type: none"> ● for main contacts <ul style="list-style-type: none"> — solid — finely stranded with core end processing ● for AWG cables for main current circuit solid 	<p>2x (1.0 ... 2.5 mm²), 2x (2.5 ... 10 mm²)</p> <p>2x (1.0 ... 2.5 mm²), 2x (2.5 ... 6.0 mm²)</p> <p>2x (16 ... 12), 2x (14 ... 8)</p>
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> ● for control circuit solid ● for control circuit finely stranded with core end processing ● for AWG cables for control circuit solid 	<p>1x (0.5 ... 4.0 mm²), 2x (0.5 ... 2.5 mm²)</p> <p>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)</p> <p>1x (20 ... 12), 2x (20 ... 14)</p>
wire length	
<ul style="list-style-type: none"> ● between soft starter and motor maximum ● at the digital inputs at DC maximum 	<p>800 m</p> <p>1 000 m</p>
tightening torque	
<ul style="list-style-type: none"> ● for main contacts with screw-type terminals ● for auxiliary and control contacts with screw-type terminals 	<p>2 ... 2.5 N·m</p> <p>0.8 ... 1.2 N·m</p>
tightening torque [lbf·in]	
<ul style="list-style-type: none"> ● for main contacts with screw-type terminals ● for auxiliary and control contacts with screw-type terminals 	<p>18 ... 22 lbf·in</p> <p>7 ... 10.3 lbf·in</p>
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 ● during storage and transport 	<p>-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above</p> <p>-40 ... +80 °C</p>
environmental category	
<ul style="list-style-type: none"> ● during operation according to IEC 60721 ● during storage according to IEC 60721 ● during transport according to IEC 60721 	<p>3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6</p> <p>1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4</p> <p>2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)</p>
Environmental footprint	
global warming potential [CO ₂ eq] total	285 kg
global warming potential [CO ₂ eq] during manufacturing	50.8 kg
global warming potential [CO ₂ eq] during sales	0.827 kg
global warming potential [CO ₂ eq] during operation	240 kg
global warming potential [CO ₂ eq] after end of life	-7.11 kg
Siemens Eco Profile (SEP)	Siemens EcoTech
Electromagnetic compatibility	
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 ● PROFINET high-feature ● EtherNet/IP ● Modbus RTU ● Modbus TCP ● PROFIBUS 	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
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 — 75/600 V at inside-delta circuit 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 	<p>Siemens type: 3RV2742, max. 60 A or 3VA51, max. 60 A; I_q = 5 kA</p> <p>Siemens type: 3RV2742, max. 30 A or 3VA51, max. 35 A; I_q max = 65 kA</p> <p>Siemens type: 3RV2742, max. 60 A or 3VA51, max. 60 A; I_q = 5 kA</p> <p>Siemens type: 3VA51, max. 35 A; I_q max = 65 kA</p> <p>Siemens type: 3RV2742, max. 60 A or 3VA51, max. 60 A; I_q = 5 kA</p> <p>Siemens type: 3VA51, max. 35 A; I_q max = 65 kA</p> <p>Siemens type: 3RV2742, max. 60 A or 3VA51, max. 60 A; I_q = 5 kA</p> <p>Type: Class RK5 / K5, max. 70 A; I_q = 5 kA</p>

according to UL	
— usable for High Faults up to 575/600 V according to UL	Type: Class J / L, max. 70 A; Iq = 100 kA
— usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL	Type: Class RK5 / K5, max. 70 A; Iq = 5 kA
— usable for High Faults at inside-delta circuit up to 575/600 V according to UL	Type: Class J / L, max. 70 A; Iq = 100 kA
operating power [hp] for 3-phase motors	
• at 200/208 V at 50 °C rated value	3 hp
• at 220/230 V at 50 °C rated value	5 hp
• at 460/480 V at 50 °C rated value	10 hp
• at 200/208 V at inside-delta circuit at 50 °C rated value	7.5 hp
• at 220/230 V at inside-delta circuit at 50 °C rated value	7.5 hp
• at 460/480 V at inside-delta circuit at 50 °C rated value	20 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
ATEX	
Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX	SIL 1
PFHD with high demand rate according to IEC 61508 relating to ATEX	5E-7 1/h
PFDAvg with low demand rate according to IEC 61508 relating to ATEX	0.008
hardware fault tolerance according to IEC 61508 relating to ATEX	0
T1 value for proof test interval or service life according to IEC 61508 relating to ATEX	3 a
certificate of suitability	
• ATEX	Yes
• IECEX	Yes
• according to ATEX directive 2014/34/EU	BVS 18 ATEX F 003 X
type of protection according to ATEX directive 2014/34/EU	II (2)G [Ex eb Gb] [Ex db Gb] [Ex pxb Gb], II (2)D [Ex tb Db] [Ex pxb Db], I (M2) [Ex db Mb]

Approvals Certificates

General Product Approval	EMV
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EMV	For use in hazardous locations	Test Certificates	Maritime application
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[KC](#)



[Type Test Certificates/Test Report](#)



Maritime application	other	Environment
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[Confirmation](#)

Siemens EcoTech



Environment

[Environmental Confirmations](#)

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=3RW5514-1HA04>

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5514-1HA04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5514-1HA04>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5514-1HA04&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

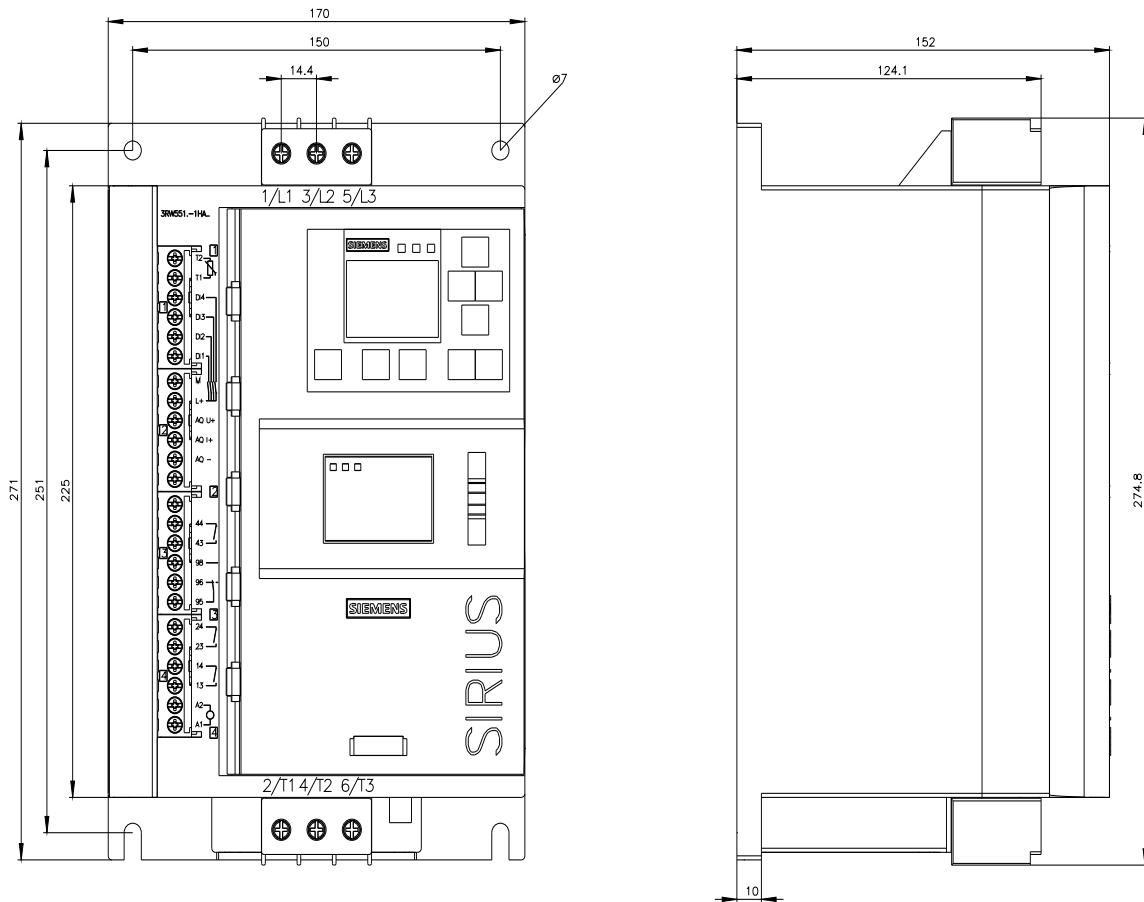
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5514-1HA04/char>

Characteristic: Installation altitude

<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5514-1HA04&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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





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