SIEMENS

product brand name

Data sheet 3RW5547-6HA14

SIRIUS



SIRIUS soft starter 200-480 V 470 A, 110-250 V AC Screw terminals

product brand name	Olivioo		
product category	Hybrid switching devices		
product designation	Soft starter		
product type designation	3RW55		
manufacturer's article number			
 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 	3VA2450-7MN32-0AA0; Type of coordination 1, lq = 65 kA, CLASS 10		
 of circuit breaker usable at 500 V 	3VA2450-7MN32-0AA0; 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 	3NE1436-2; 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		
eneral 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 approval	Yes		
	V		
CSA approval	Yes		
CSA approval product component	Yes		

• is supported HMI-High Feature	Yes		
product feature integrated bypass contact system	Yes		
number of controlled phases	3		
trip class	CLASS 10A / 10E (default) / 20E / 30E; acc. to IEC 60947-4-2		
current unbalance limiting value [%]	10 60 %		
ground-fault monitoring limiting value [%]	10 95 %		
buffering time in the event of power failure			
for main current circuit	100 ms		
• 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	1 400 V		
service factor	1.15		
surge voltage resistance rated value	6 kV		
maximum permissible voltage for protective separation			
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		
product function			
ramp-up (soft starting)	Yes		
ramp-down (soft stop)	Yes		
breakaway pulse	Yes		
adjustable current limitation	Yes		
 creep speed in both directions of rotation 	Yes		
pump ramp down	Yes		
DC braking	Yes		
motor heating	Yes		
 slave pointer function 	Yes		
• trace function	Yes		
intrinsic device protection	Yes		
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.		
 evaluation of thermistor motor protection 	Yes; Type A PTC or Klixon / Thermoclick		
• inside-delta circuit	Yes		
• auto-RESET	Yes		
manual RESET	Yes		
• remote reset	Yes		
 communication function 	Yes		
 operating measured value display 	Yes		
• event list	Yes		
• error logbook	Yes		
 via software parameterizable 	Yes		
 via software configurable 	Yes		
screw terminal	Yes		
spring-loaded terminal	No		
PROFlenergy	Yes; in connection with the PROFINET Standard and PROFINET High-Feature communication modules		
firmware update	Yes		
 removable terminal for control circuit 	Yes		
voltage ramp	Yes		
• torque control	Yes		
combined braking	Yes		
analog output	Yes; 4 20 mA (default) / 0 10 V		
 programmable control inputs/outputs 	Yes		
condition monitoring	Yes		



	V.	
automatic parameterisation	Yes	
application wizards	Yes	
alternative run-down	Yes	
emergency operation mode	Yes	
reversing operation	Yes	
soft starting at heavy starting conditions	Yes	
Power Electronics		
operational current		
• at 40 °C rated value	470 A	
 at 40 °C rated value minimum 	94 A	
• at 50 °C rated value	416 A	
at 60 °C rated value	380 A	
operational current at inside-delta circuit		
• at 40 °C rated value	814 A	
• at 50 °C rated value	721 A	
at 60 °C rated value	658 A	
operating voltage		
• rated value	200 480 V	
at inside-delta circuit rated value	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		
at 230 V at 40 °C rated value	132 kW	
 at 230 V at inside-delta circuit at 40 °C rated value 	250 kW	
 at 400 V at 40 °C rated value 	250 kW	
at 400 V at inside-delta circuit at 40 °C rated value	400 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 %	
minimum load [%]	10 %; Relative to set le	
power loss [W] for rated value of the current at AC		
• at 40 °C after startup	141 W	
• at 50 °C after startup	125 W	
at 60 °C after startup	114 W	
power loss [W] at AC at current limitation 350 %		
• at 40 °C during startup	7 651 W	
at 50 °C during startup	6 400 W	
at 60 °C during startup	5 620 W	
type of the motor protection	Electronic, tripping in the event of thermal overload of the motor	
Control circuit/ Control	10	
type of voltage of the control supply voltage	AC	
control supply voltage at AC	440 0501/	
• at 50 Hz	110 250 V	
• at 60 Hz	110 250 V	
relative negative tolerance of the control supply voltage at AC at 50 Hz	-15 % -	
relative positive tolerance of the control supply voltage at AC at 50 Hz	10 %	
relative negative tolerance of the control supply voltage at AC at 60 Hz	-15 % -	
relative positive tolerance of the control supply voltage at AC at 60 Hz	10 %	
control supply voltage frequency	50 60 Hz	
relative negative tolerance of the control supply voltage frequency	-10 %	
	-10 % 10 %	
relative positive tolerance of the control supply voltage		



holding current in bypass operation rated value	150 mA
inrush current by closing the bypass contacts maximum	0.87 A
inrush current peak at application of control supply voltage maximum	43 A
duration of inrush current peak at application of control supply voltage	1.6 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	4
parameterizable	4
 number of digital outputs 	4
 number of digital outputs parameterizable 	3
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	
• 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	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)
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	10.9 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
wire length for thermistor connection	
 with conductor cross-section = 0.5 mm² maximum 	50 m
• with conductor cross-section = 1.5 mm² maximum	150 m
 with conductor cross-section = 2.5 mm² maximum 	250 m
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 DC maximum	
at the digital inputs at DC maximum	1 000 m
tightening torque	
• for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type	1 000 m
• for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals	1 000 m
tightening torque • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals tightening torque [lbf·in]	1 000 m 14 24 N·m 0.8 1.2 N·m
• for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals	1 000 m



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), 30	C3 (no salt mist) 3S2	
	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)		
EMC emitted interference	acc. to IEC 60947-4-2: Class A		
Communication/ Protocol			
communication module is supported			
 PROFINET standard 	Yes		
 PROFINET high-feature 	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 	150 hp		
• at 460/480 V at 50 °C rated value	350 hp		
• at 200/208 V at inside-delta circuit at 50 °C rated value	250 hp		
• at 220/230 V at inside-delta circuit at 50 °C rated value	250 hp		
• at 460/480 V at inside-delta circuit at 50 °C rated value	600 hp		
contact rating of auxiliary contacts according to UL	R300-B300		
Safety related data	1000 2000		
	IP00; IP20 with cover		
protection class IP on the front according to IEC 60529			
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with cover		
electromagnetic compatibility	acc. to IEC 60947-4-2		
ATEX			
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]		
hardware fault tolerance according to IEC 61508 relating to ATEX	0		
PFDavg with low demand rate according to IEC 61508 relating to ATEX	0.008		
PFHD with high demand rate according to EN 62061 relating to ATEX	5E-7 1/h		
Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX	SIL1		
T1 value for proof test interval or service life according to IEC 61508 relating to ATEX	3 a		
Certificates/ approvals			
General Product Approval		EMC	







Confirmation







For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping







Type Test Certificates/Test Report





Marine / Shipping

other





Confirmation

Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3RW5547-6HA14

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RW5547-6HA14}}$

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5547-6HA14

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

 $\underline{\text{http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5547-6HA14\&lang=en}}$

 $\label{lem:characteristic:} \textbf{Characteristic: Tripping characteristics, } \ l^2\textbf{t, Let-through current}$

https://support.industry.siemens.com/cs/ww/en/ps/3RW5547-6HA14/char

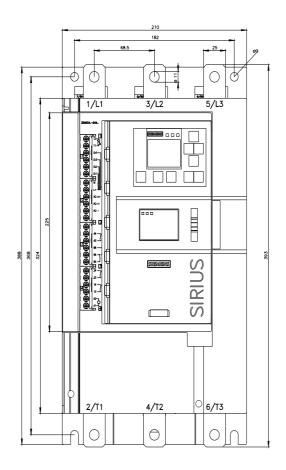
Characteristic: Installation altitude

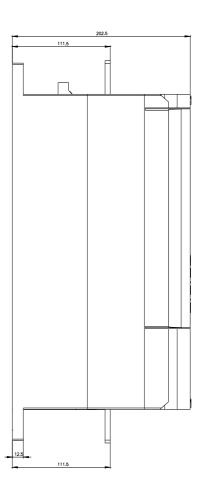
 $\underline{\text{http://www.automation.siemens.com/bilddb/index.aspx?view=Search\&mlfb=3RW5547-6HA14\&objecttype=14\&gridview=view1}$

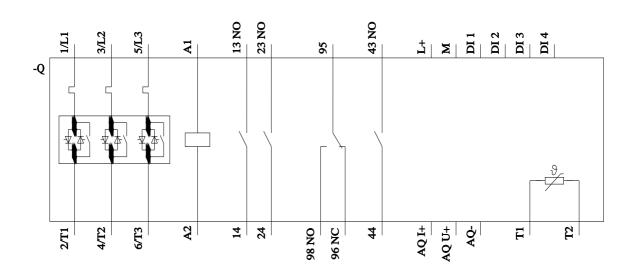
Simulation Tool for Soft Starters (STS)

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









8/24/2023



