SIEMENS

product brand name

product category

Data sheet 3RW5547-2HA14

SIRIUS

Hybrid switching devices



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



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, Iq = 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, lq = 65 kA
 of the gG fuse usable at inside-delta circuit up to 500 V 	2x3NA3365-6; Type of coordination 1, lq = 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
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 %
torque limitation [%] current limiting value [%] adjustable	20 200 % 125 800 %
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current limiting value [%] adjustable	125 800 %
current limiting value [%] adjustable breakaway voltage [%] adjustable	125 800 % 40 100 %
current limiting value [%] adjustable breakaway voltage [%] adjustable breakaway time adjustable	125 800 % 40 100 % 0 2 s
current limiting value [%] adjustable breakaway voltage [%] adjustable breakaway time adjustable number of parameter sets	125 800 % 40 100 % 0 2 s 3

UL approval

Yes

CSA approval	Yes
product component	
HMI-High Feature	Yes
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	10 30 /0
• 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	O KV
between main and auxiliary circuit	480 V; does not apply for thermistor connection
between main and auxiliary circuit shock resistance	15 g / 11 ms, from 6 g / 11 ms with potential contact lifting
	60 1 800 s
recovery time after overload trip adjustable	
utilization category according to IEC 60947-4-2	AC 53a Q
reference code according to IEC 81346-2	02/15/2018
Substance Prohibitance (Date) 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 Dicyclohexyl phthalate (DCHP) - 84-61-7 Dodecamethylcyclohexasiloxane (D6) - 540-97-6 Lead titanium trioxide - 12060-00-3
product function	
• ramp-up (soft starting)	Yes
ramp-down (soft stop)	Yes
breakaway pulse - distribution - distri	Yes
adjustable current limitation	Yes
creep speed in both directions of rotation	Yes
pump ramp down DC hypling	Yes Yes
DC braking motor booting	
motor heating alove relater function	Yes
slave pointer function trace function	Yes
trace function intrinsic device protection	Yes
intrinsic device protection mater everland 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	No
spring-loaded terminal	Yes
PROFlenergy	Yes; in connection with the PROFINET Standard and PROFINET High-Feature communication modules
• firmware update	Yes

Yes Yes
Voc
Yes
Yes
Yes; 4 20 mA (default) / 0 10 V
Yes
470 A
94 A
416 A
380 A
814 A
721 A
658 A
200 480 V
200 480 V
-15 %
10 %
-15 %
10 %
132 kW
250 kW
250 kW
400 kW
50 Hz
60 Hz
-10 %
10 %
10 %; Relative to set le
141 W
125 W
114 W
7 651 W
6 400 W
5 620 W
Electronic, tripping in the event of thermal overload of the motor
AC
140 250 //
110 250 V
110 250 V
-15 %
10 %
-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 %
relative positive tolerance of the control supply voltage frequency	10 %
control supply current in standby mode rated value	100 mA
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	
	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)
mounting position	screw fixing
fastening method	393 mm
height	
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	spring-loaded 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	2x (0.25 1.5 mm²)
for control circuit finely stranded with core end processing	2x (0.25 1.5 mm²)
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) 2x (24 16)
wire length	
 between soft starter and motor maximum 	800 m

at the digital inputs at DC maximum	1 000 m
tightening torque	
for main contacts with screw-type terminals	14 24 N·m
for auxiliary and control contacts with screw-type	0.8 1.2 N·m
terminals	
tightening torque [lbf·in]	
 for main contacts with screw-type terminals 	124 210 lbf-in
 for auxiliary and control contacts with screw-type 	7 10.3 lbf-in
terminals Ambient conditions	
Ambient conditions	5 000 m. Derating as of 1000 m. see setalog
installation altitude at height above sea level maximum	5 000 m; Derating as of 1000 m, see catalog
ambient temperature	-25 +60 °C; Please observe derating at temperatures of 40 °C or above
during operation during storage and transport	-40 +80 °C
during storage and transport	-40 +60 C
environmental category • during operation according to IEC 60721	3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2
- during operation according to 120 00721	(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)
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	
 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 ventle for Standard Faulte up to E75/000 V	Turner Class IIII many 4000 A. In. 2014
 usable for Standard Faults up to 575/600 V according to UL 	Type: Class J / L, max. 1600 A; lq = 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 Appropriate rating of auxiliary contacts according to III.	600 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
ATEX	migor sale, for vertical contact from the front with cover
Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX	SIL1
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
- IECEx

• according to ATEX directive 2014/34/EU

type of protection according to ATEX directive 2014/34/EU

Yes

Yes

BVS 18 ATEX F 003 X

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









Confirmation



General Product Approval

EMV

For use in hazardous locations

Test Certificates





<u>KC</u>





Type Test Certificates/Test Report

Marine / Shipping









Confirmation

other



Environment

Environment





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=3RW5547-2HA14

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5547-2HA14

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5547-2HA14

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

Characteristic: Tripping characteristics, I2t, Let-through current

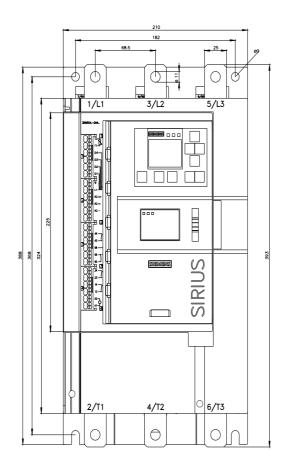
https://support.industry.siemens.com/cs/ww/en/ps/3RW5547-2HA14/char

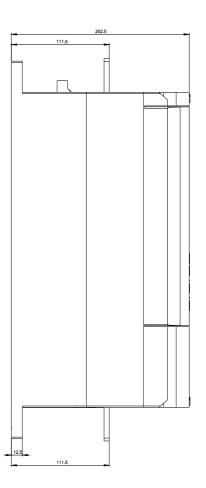
Characteristic: Installation altitude

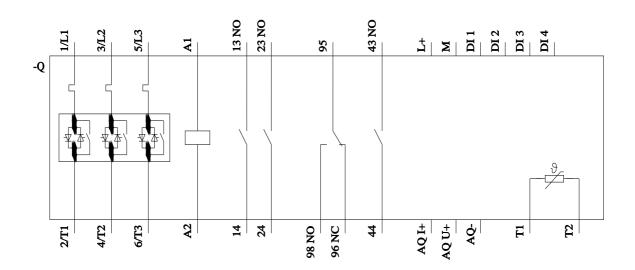
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5547-2HA14&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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