## **SIEMENS**

product brand name

Data sheet 3RW5548-2HA16

SIRIUS



SIRIUS soft starter 200-690 V 570 A, 110-250 V AC spring-type 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
<ul> <li>of communication module Modbus RTU usable</li> </ul>	3RW5980-0CR00
<ul> <li>of communication module Ethernet/IP</li> </ul>	3RW5980-0CE00
<ul> <li>of circuit breaker usable at 400 V</li> </ul>	3VA2580-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
<ul> <li>of circuit breaker usable at 500 V</li> </ul>	3VA2580-6HN32-0AA0; 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
<ul> <li>of the gG fuse usable up to 690 V</li> </ul>	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
<ul> <li>of full range R fuse link for semiconductor protection usable up to 690 V</li> </ul>	3NE1437-2; Type of coordination 2, Iq = 65 kA
<ul> <li>of back-up R fuse link for semiconductor protection usable up to 690 V</li> </ul>	3NC3342-1U; 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	3 5 (based on IEC 61557-12)
accuracy class certificate of suitability	
certificate of suitability	5 (based on IEC 61557-12)
certificate of suitability  • CE marking	5 (based on IEC 61557-12) Yes
certificate of suitability  CE marking  UL approval	5 (based on IEC 61557-12)  Yes 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	690 V
degree of pollution	3, acc. to IEC 60947-4-2
impulse voltage rated value	8 kV
blocking voltage of the thyristor maximum	1 800 V
service factor	1.15
surge voltage resistance rated value	8 kV
maximum permissible voltage for protective separation	
between main and auxiliary circuit	690 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	Yes
<ul><li>ramp-up (soft starting)</li><li>ramp-down (soft stop)</li></ul>	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)
<ul> <li>evaluation of thermistor motor protection</li> </ul>	Yes; Type A PTC or Klixon / Thermoclick
• inside-delta circuit	Yes; Only up to 600 V operating voltage
• auto-RESET	Yes
• manual RESET	Yes
• remote reset	Yes
<ul> <li>communication function</li> </ul>	Yes
<ul> <li>operating measured value display</li> </ul>	Yes
• event list	Yes
• error logbook	Yes
<ul> <li>via software parameterizable</li> </ul>	Yes
<ul> <li>via software configurable</li> </ul>	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
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
<ul> <li>programmable control inputs/outputs</li> </ul>	Yes
condition monitoring	Yes

automatic parameterisation	Yes
application wizards	Yes
<ul> <li>alternative run-down</li> </ul>	Yes
<ul> <li>emergency operation mode</li> </ul>	Yes
<ul><li>reversing operation</li></ul>	Yes
soft starting at heavy starting conditions	Yes
Power Electronics	
operational current	
<ul> <li>at 40 °C rated value</li> </ul>	570 A
<ul> <li>at 40 °C rated value minimum</li> </ul>	114 A
<ul> <li>at 50 °C rated value</li> </ul>	504 A
at 60 °C rated value	460 A
operational current at inside-delta circuit	
• at 40 °C rated value	987 A
• at 50 °C rated value	873 A
• at 60 °C rated value	796 A
operating voltage	
• rated value	200 690 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	160 kW
<ul> <li>at 230 V at inside-delta circuit at 40 °C rated value</li> </ul>	315 kW
• at 400 V at 40 °C rated value	315 kW
• at 400 V at inside-delta circuit at 40 °C rated value	560 kW
• at 500 V at 40 °C rated value	355 kW
• at 500 V at inside-delta circuit at 40 °C rated value	630 kW
• at 690 V at 40 °C rated value	560 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	171 W
• at 50 °C after startup	151 W
• at 60 °C after startup	141 W
power loss [W] at AC at current limitation 350 %	
at 40 °C during startup	10 229 W
at 50 °C during startup	8 488 W
at 60 °C during startup	7 651 W
type of the motor protection	Electronic, tripping in the event of thermal overload of the motor
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
• 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	-10 %
frequency	

volativa nasitiva talavenas of the santral	10.07
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
<ul> <li>number of digital outputs</li> </ul>	4
<ul> <li>number of digital outputs parameterizable</li> </ul>	3
<ul> <li>number of digital outputs not parameterizable</li> </ul>	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	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)
wire length	
between soft starter and motor maximum	800 m
at the digital inputs at DC maximum	800 m 1 000 m
at the digital inputs at DC maximum     tightening torque	1 000 m
at the digital inputs at DC maximum	

tightening torque [lbf·in]	
for main contacts with screw-type terminals	124 210 lbf·in
<ul> <li>for auxiliary and control contacts with screw-type terminals</li> </ul>	7 10.3 lbf·in
Ambient conditions	
	2 000 m; Derating as of 1000 m, see catalog
installation altitude at height above sea level maximum	2 000 III, Defaulting as of 1000 III, see catalog
ambient temperature	25 LGO °C: Places cheep a denoting at temperatures of 40 °C or shows
during operation     during storage and transport	-25 +60 °C; Please observe derating at temperatures of 40 °C or above
during storage and transport	-40 +60 C
environmental category	2K6 (no ice formation only acceptance condensation) 2C2 (no celt mist) 2C2
<ul> <li>during operation according to IEC 60721</li> </ul>	3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
<ul> <li>during storage according to IEC 60721</li> </ul>	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
<ul> <li>usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL</li> </ul>	Type: Class J / L, max. 1600 A; Iq = 30 kA
<ul> <li>usable for High Faults at inside-delta circuit up to 575/600 V according to UL</li> </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	200 hp
<ul> <li>at 460/480 V at 50 °C rated value</li> </ul>	400 hp
• at 575/600 V at 50 °C rated value	500 hp
• at 200/208 V at inside-delta circuit at 50 °C rated value	300 hp
• at 220/230 V at inside-delta circuit at 50 °C rated value	350 hp
• at 460/480 V at inside-delta circuit at 50 °C rated value	750 hp
• at 575/600 V at inside-delta circuit at 50 °C rated value	950 hp
contact rating of auxiliary contacts according to UL	R300-B300
Safety related data	
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
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	0.008 5E-7 1/h

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## 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=3RW5548-2HA16

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5548-2HA16

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5548-2HA16

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

http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RW5548-2HA16&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

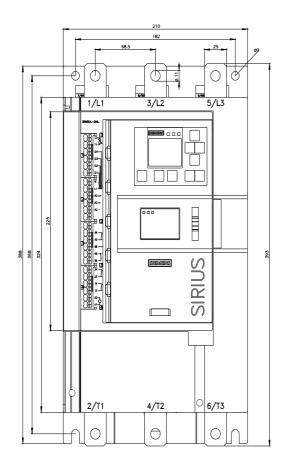
https://support.industry.siemens.com/cs/ww/en/ps/3RW5548-2HA16/char

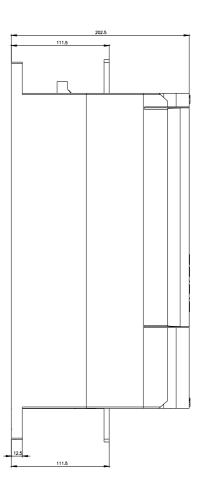
Characteristic: Installation altitude

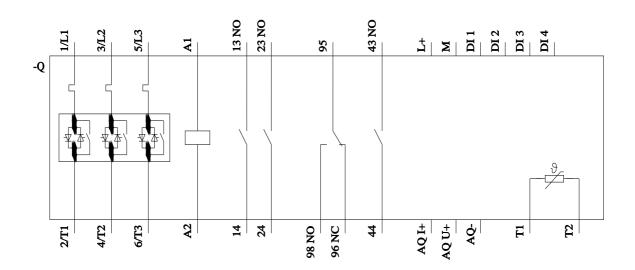
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5548-2HA16&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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