SIEMENS

Data sheet 3RW5558-6HA14



SIRIUS soft starter 200-480 V 1280 A, 110-250 V AC Screw terminals

Figure similar

product brand name	SIRIUS
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 	3VA2716-7AB05-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V 	3VA2716-7AB05-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of the gG fuse usable up to 690 V 	3x3NA3365-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	3NB3357-1KK26; Type of coordination 2, Iq = 65 kA
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3x3NE3340-8; 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 %
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
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		
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		
	6 kV		
maximum permissible voltage for protective separation	O NV		
	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		
vibration resistance	15 mm up to 6 Hz; 2 g up to 500 Hz 60 1 800 s		
recovery time after overload trip adjustable			
utilization category according to IEC 60947-4-2	AC 53a		
reference code according to IEC 81346-2	Q 02/44/2040		
Substance Prohibitance (Date)	02/11/2019		
product function	Voc		
• 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		
	Yes; 4 20 mA (default) / 0 10 V Yes		
programmable control inputs/outputs			
	Yes		

a alternative run deves	Voo
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	1 280 A
• at 40 °C rated value minimum	256 A
• at 50 °C rated value	1 139 A
at 60 °C rated value	1 030 A
operational current at inside-delta circuit	
• at 40 °C rated value	2 217 A
• at 50 °C rated value	1 973 A
at 60 °C rated value	1 784 A
operating voltage	000 400 1/
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 	400 kW
• at 230 V at inside-delta circuit at 40 °C rated value	710 kW
• at 400 V at 40 °C rated value	710 kW
at 400 V at inside-delta circuit at 40 °C rated value	1 200 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	
	384 W
 at 40 °C after startup 	304 W
at 40 °C after startupat 50 °C after startup	337 W
•	
at 50 °C after startup at 60 °C after startup power loss [W] at AC at current limitation 350 %	337 W
at 50 °C after startup at 60 °C after startup	337 W
at 50 °C after startup at 60 °C after startup power loss [W] at AC at current limitation 350 %	337 W 275 W
 at 50 °C after startup at 60 °C after startup power loss [W] at AC at current limitation 350 % at 40 °C during startup 	337 W 275 W 23 279 W
 at 50 °C after startup at 60 °C after startup power loss [W] at AC at current limitation 350 % at 40 °C during startup at 50 °C during startup 	337 W 275 W 23 279 W 19 496 W
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inrush current peak at application of control supply voltage maximum	44 A
duration of inrush current peak at application of control supply voltage	1.7 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	764 mm
width	478 mm
depth	241 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	61 kg
Connections/ Terminals	
type of electrical connection	
for main current circuit	busbar connection
• for control circuit	screw-type terminals
width of connection bar maximum	55 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	1 000 m
tightening torque	
for main contacts with screw-type terminals	20 35 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	177 310 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; 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), 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. 3000 A; Iq = 85 kA		
— usable for High Faults up to 575/600 V according to UL	Type: Class J / L, max. 3000 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. 3000 A; Iq = 85 kA		
 usable for High Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 3000 A; Iq = 100 kA		
operating power [hp] for 3-phase motors			
• at 200/208 V at 50 °C rated value	400 hp		
• at 220/230 V at 50 °C rated value	450 hp		
• at 460/480 V at 50 °C rated value	1 000 hp		
• at 200/208 V at inside-delta circuit at 50 °C rated value	700 hp		
• at 220/230 V at inside-delta circuit at 50 °C rated value	850 hp		
• at 460/480 V at inside-delta circuit at 50 °C rated value	1 700 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		
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=3RW5558-6HA14

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5558-6HA14

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5558-6HA14

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5558-6HA14&lang=er

Characteristic: Tripping characteristics, I2t, Let-through current

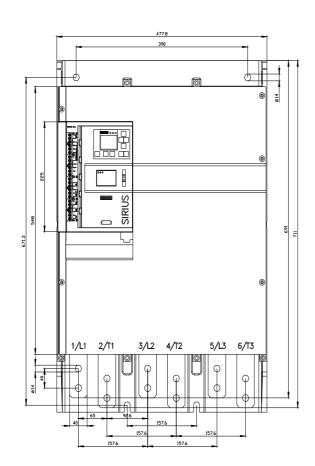
https://support.industry.siemens.com/cs/ww/en/ps/3RW5558-6HA14/char

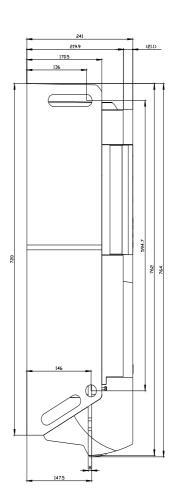
Characteristic: Installation altitude

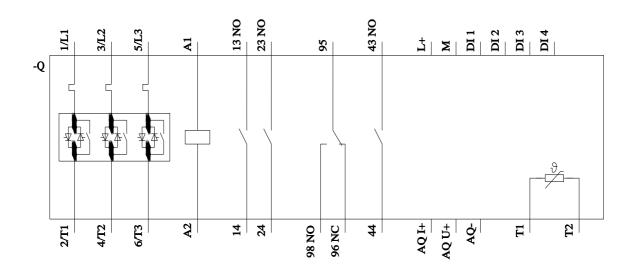
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5558-6HA14&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

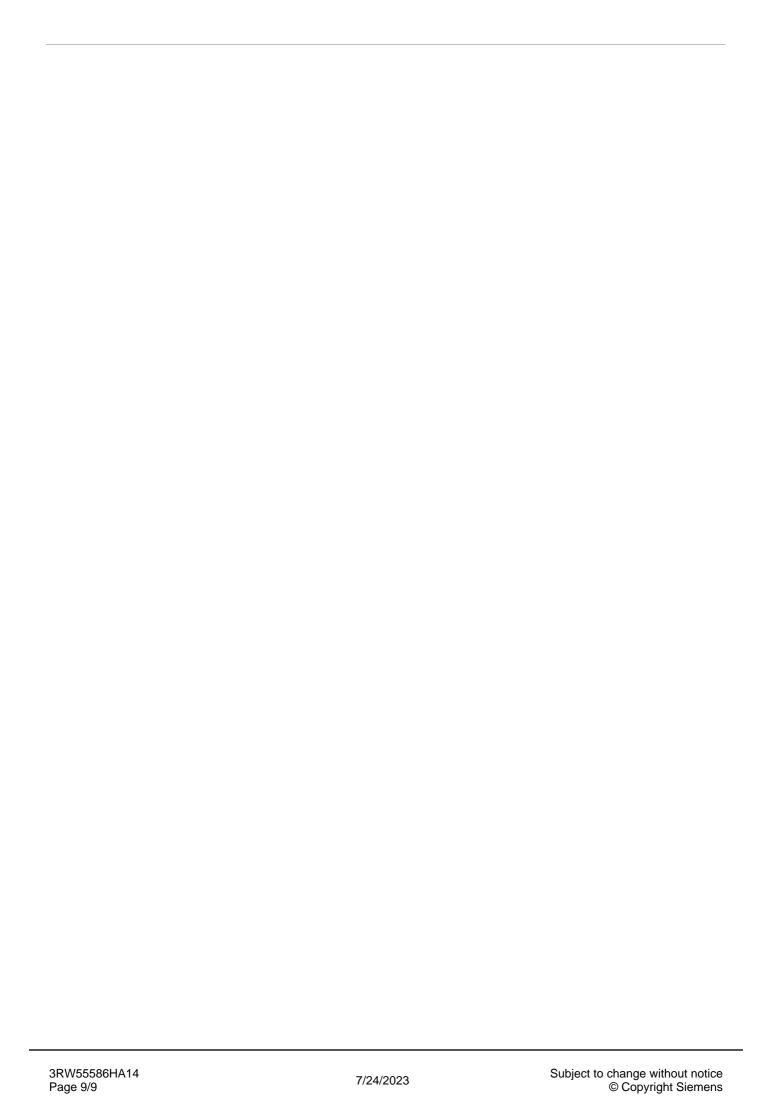
https://support.industry.siemens.com/cs/ww/en/view/101494917







last modified: 5/1/2023 🖸



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