SIEMENS

Data sheet

3RW5534-2HA14



SIRIUS soft starter 200-480 V 113 A, 110-250 V AC spring-type terminals

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 	<u>3RW5980-0HF00</u>
 of communication module PROFINET standard usable 	<u>3RW5980-0CS00</u>
 of communication module PROFINET high-feature usable 	<u>3RW5950-0CH00</u>
 of communication module PROFIBUS usable 	<u>3RW5980-0CP00</u>
 of communication module Modbus TCP usable 	<u>3RW5980-0CT00</u>
 of communication module Modbus RTU usable 	<u>3RW5980-0CR00</u>
 of communication module Ethernet/IP 	<u>3RW5980-0CE00</u>
 of circuit breaker usable at 400 V 	3VA2216-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 400 V at inside-delta circuit 	3VA2220-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of the gG fuse usable up to 690 V 	3NA3244-6; Type of coordination 1, Iq = 65 kA
 of the gG fuse usable at inside-delta circuit up to 500 V 	<u>3NA3244-6; Type of coordination 1, Iq = 65 kA</u>
 of full range R fuse link for semiconductor protection usable up to 690 V 	<u>3NE1225-0; Type of coordination 2, Iq = 65 kA</u>
 of back-up R fuse link for semiconductor protection usable up to 690 V 	<u>3NE3231; Type of coordination 2, Iq = 65 kA</u>
Seneral technical data	
starting voltage [9/1	20 100 %

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	

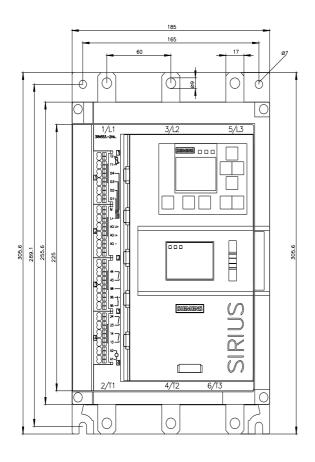
HMI-High Feature	Yes				
 is supported HMI-High Feature 	Yes				
product feature integrated bypass contact system	Yes				
number of controlled phases	3				
current unbalance limiting value [%]	10 60 %				
ground-fault monitoring limiting value [%]	10 95 %				
buffering time in the event of power failure					
 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				
ecovery 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 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 	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	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				

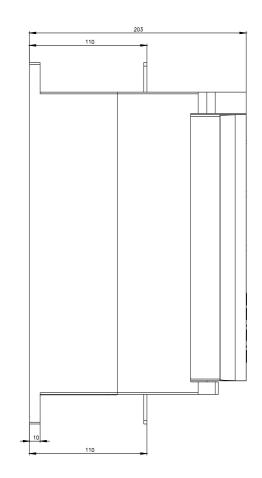
torque control	Yes				
combined braking	Yes				
 analog output 	Yes; 4 20 mA (default) / 0 10 V				
 programmable control inputs/outputs 	Yes				
 condition monitoring 	Yes				
 automatic parameterisation 	Yes				
 application wizards 	Yes				
 alternative run-down 	Yes				
 emergency operation mode 	Yes				
 reversing operation 	Yes				
 soft starting at heavy starting conditions 	Yes				
Power Electronics					
operational current					
 at 40 °C rated value 	113 A				
 at 40 °C rated value minimum 	23 A				
● at 50 °C rated value	101 A				
● at 60 °C rated value	89 A				
operational current at inside-delta circuit					
• at 40 °C rated value	196 A				
● at 50 °C rated value	175 A				
at 60 °C rated value	154 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	30 kW				
 at 230 V at inside-delta circuit at 40 °C rated value 	55 kW				
• at 400 V at 40 °C rated value	55 kW				
at 400 V at inside-delta circuit at 40 °C rated value	110 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					
minimum load [%]	10 %; Relative to set le				
power loss [W] for rated value of the current at AC • at 40 °C after startup	34 W				
 at 50 °C after startup at 60 °C after startup 	30 W 27 W				
power loss [W] at AC at current limitation 350 %	21 VV				
 at 40 °C during startup 	1 500 W				
• at 50 °C during startup	1 279 W				
• at 60 °C during startup	1 074 W				
at our ordining startup	101717				
type of the motor protection	Electronic, tripping in the event of thermal overload of the motor				
type of the motor protection	Electronic, tripping in the event of thermal overload of the motor				
Control circuit/ Control					
Control circuit/ Control type of voltage of the control supply voltage	Electronic, tripping in the event of thermal overload of the motor AC				
Control circuit/ Control					
Control circuit/ Control type of voltage of the control supply voltage control supply voltage at AC	AC				
Control circuit/ Control type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz • at 60 Hz relative negative tolerance of the control supply voltage at	AC 110 250 V				
Control circuit/ Control type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz • at 60 Hz relative negative tolerance of the control supply voltage at AC at 50 Hz relative positive tolerance of the control supply voltage at	AC 110 250 V 110 250 V				
Control circuit/ Control type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz • at 60 Hz relative negative tolerance of the control supply voltage at AC at 50 Hz	AC 110 250 V 110 250 V -15 %				
Control circuit/ Control type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz • at 60 Hz relative negative tolerance of the control supply voltage at AC at 50 Hz relative positive tolerance of the control supply voltage at AC at 50 Hz relative negative tolerance of the control supply voltage at AC at 50 Hz relative negative tolerance of the control supply voltage at AC at 50 Hz	AC 110 250 V 110 250 V -15 % 10 %				

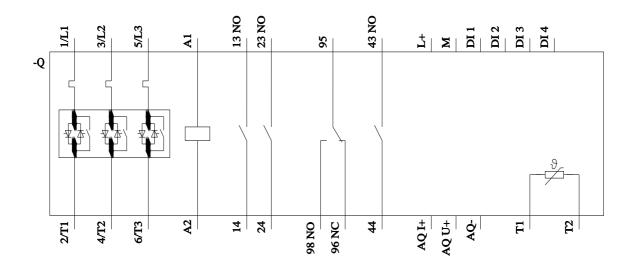
control supply voltage frequency	50 60 Hz			
relative negative tolerance of the control supply voltage frequency	-10 %			
relative positive tolerance of the control supply voltage frequency	10 %			
control supply current in standby mode rated value	100 mA			
holding current in bypass operation rated value	180 mA			
inrush current by closing the bypass contacts maximum	0.8 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	1A			
	1A			
Installation/ mounting/ dimensions				
mounting position	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)			
fastening method	screw fixing			
height	306 mm			
width	185 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	6.85 kg			
Connections/ Terminals				
type of electrical connection				
for main current circuit	busbar connection			
for control circuit	spring-loaded terminals			
width of connection bar maximum	25 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 mm ² maximum	250 m			
type of connectable conductor cross-sections				
for DIN cable lug for main contacts stranded	2x (16 95 mm²)			
 for DIN cable lug for main contacts finely stranded 	2x (10 00 mm ²)			
type of connectable conductor cross-sections	(· · ·· · · · · · · · · · · · · · · ·			
for control circuit solid	2x (0.25 1.5 mm²)			
 for control circuit solution for control circuit finely stranded with core end processing 	2x (0.25 1.5 mm ²)			
 for AWG cables for control circuit solid for AWG cables for control circuit finally stranded with 	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 	1 000 m			

 for main contacts with screw-type terminals 	10 14 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 	89 124 lbf·in			
 for auxiliary and control contacts with screw-type 	7 10.3 lbf·in			
terminals	7 10.3 IDHIT			
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			
	-40 +80 °C			
during storage and transport	-40 +00 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 starsing according to IEC 60701				
 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 circuit breaker usable for Standard Faults 				
— at 460/480 V according to UL	Siemens type: 3VA52, max. 250 A; Iq = 10 kA			
- 60/480 V according to UL	Siemens type: 3VA52, max. 250 A; lq max = 65 kA			
— at 460/480 V at inside-delta circuit according to UL	Siemens type: 3VA52, max. 250 A; lq = 10 kA			
— 60/480 V at inside-delta circuit according to UL	Siemens type: $3VA52$, max. 250 A; Ig max = 65 kA			
- at 575/600 V according to UL	Siemens type: $3VA52$, max. 250 A; lq = 10 kA			
0				
— 75/600 V at inside-delta circuit according to UL	Siemens type: 3VA52, max. 250 A; lq max = 65 kA			
 — at 575/600 V at inside-delta circuit according to UL 	Siemens type: 3VA52, max. 250 A; Iq = 10 kA			
of the fuse				
— usable for Standard Faults up to 575/600 V	Type: Class RK5 / K5, max. 350 A; Iq = 10 kA			
according to UL				
— usable for High Faults up to 575/600 V according to UL	Type: Class J / L, max. 350 A; lq = 100 kA			
 — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class RK5 / K5, max. 350 A; lq = 10 kA			
 — usable for High Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 350 A; Iq = 100 kA			
operating power [hp] for 3-phase motors				
• at 200/208 V at 50 °C rated value	30 hp			
at 220/230 V at 50 °C rated value	30 hp			
• at 460/480 V at 50 °C rated value	75 hp			
• at 200/208 V at inside-delta circuit at 50 °C rated value	50 hp			
 at 220/230 V at inside-delta circuit at 50 °C rated value 	60 hp			
• at 460/480 V at inside-delta circuit at 50 °C rated value	125 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				
Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX	SIL1			
PFHD with high demand rate according to IEC 61508	5E-7 1/h			

relating to ATEX						
PFDavg with low dema relating to ATEX	PFDavg with low demand rate according to IEC 61508 relating to ATEX		0.008			
hardware fault tolerand ATEX	e according to IEC 6150	08 relating to	0			
T1 value for proof test IEC 61508 relating to A	interval or service life a TEX	ccording to	3 a			
certificate of suitability	,					
• ATEX			Yes			
• IECEx			Yes			
 according to ATEX 	K directive 2014/34/EU		BVS 18 ATEX F 003 X			
type of protection acco	ording to ATEX directive		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]			
pprovals Certificates						
General Product Appro	oval					
	UK CA	CE EG-Konf.	Confirmation		U	
General Product Approval	EMV		For use in hazard	lous locations	Test Certificates	
EHC	RCM	<u>KC</u>	IECE×	K ATEX	Type Test Certific- ates/Test Report	
Marine / Shipping				other	Environment	
ABS	BUREAU VERITAS	Hoyds Register urs	PRS	<u>Confirmation</u>	EPD	
Environment						
Siemens EcoTech	Environmental Con- firmations					
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Information on the pac	kaging					
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