SIEMENS

Data sheet

3RW5536-2HA14



SIRIUS soft starter 200-480 V 171 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 	3VA2325-7MN32-0AA0; Type of coordination 1, Iq = 30 kA, CLASS 10
 of circuit breaker usable at 500 V 	3VA2325-7MN32-0AA0; Type of coordination 1, Iq = 10 kA, CLASS 10
 of circuit breaker usable at 400 V at inside-delta circuit 	3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 30 kA, CLASS 10
 of circuit breaker usable at 500 V at inside-delta circuit 	3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 10 kA, CLASS 10
 of the gG fuse usable up to 690 V 	3NA3365-6; Type of coordination 1, Iq = 65 kA
 of the gG fuse usable at inside-delta circuit up to 500 V 	3NA3365-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	<u>3NE1230-0; Type of coordination 2, Iq = 65 kA</u>
 of back-up R fuse link for semiconductor protection usable up to 690 V 	<u>3NE3334-0B; Type of coordination 2, Iq = 65 kA</u>

General technical data

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

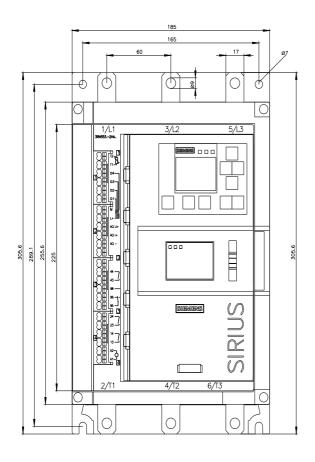
 is supported HMI-High Feature 	Yes
product feature integrated bypass contact system	Yes
number of controlled phases	3
trip class	CLASS 10A / 10E (default) / 20E / 30E; acc. to IEC 60947-4-2
current unbalance limiting value [%]	10 60 %
ground-fault monitoring limiting value [%]	10 95 %
buffering time 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
surge voltage resistance rated value	6 kV
maximum permissible voltage for protective separation	0 KV
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
	02/15/2018
Substance Prohibitance (Date)	02/15/2010
product function	Yes
 ramp-up (soft starting) ramp-down (soft stop) 	Yes
	Yes
 breakaway pulse adjustable current limitation 	Yes
 creep speed in both directions of rotation 	Yes
pump ramp down	Yes
DC braking	Yes
0	Yes
motor heating	Yes
 slave pointer function trace function 	Yes
intrinsic device protection motor overload protection	Yes 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

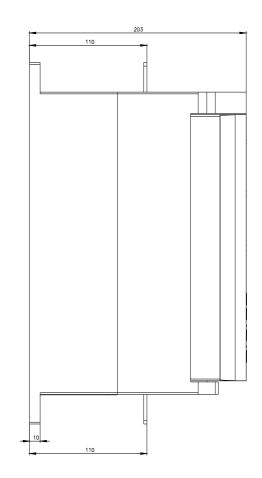
automatic parameterisation	Yes
application wizards	Yes
 alternative run-down 	Yes
emergency operation mode	Yes
reversing operation	Yes
 soft starting at heavy starting conditions 	Yes
Power Electronics	
operational current	
 at 40 °C rated value 	171 A
• at 40 °C rated value minimum	34 A
• at 50 °C rated value	153 A
at 60 °C rated value	141 A
operational current at inside-delta circuit	
• at 40 °C rated value	296 A
• at 50 °C rated value	265 A
at 60 °C rated value	244 A
operating voltage	200 400 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 % -15 %
relative negative tolerance of the operating voltage at inside-delta circuit	
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	45 kW
• at 230 V at inside-delta circuit at 40 °C rated value	90 kW
• at 400 V at 40 °C rated value	90 kW
at 400 V at inside-delta circuit at 40 °C rated value	160 kW
Operating frequency 1 rated value	50 Hz
Operating frequency 2 rated value relative negative tolerance of the operating frequency	60 Hz -10 %
relative negative 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	51 W
• at 50 °C after startup	46 W
• at 60 °C after startup	42 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup	2 393 W
• at 50 °C during startup	2 038 W
• at 60 °C during startup	1 814 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 frequency	-10 %
relative positive tolerance of the control supply voltage frequency	10 %
control supply current in standby mode rated value	100 mA

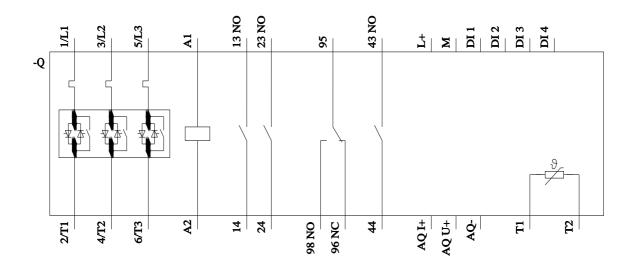
holding current in hypacs operation rated value	180 mA
holding current in bypass operation rated value	
inrush current by closing the bypass contacts maximum inrush current peak at application of control supply voltage	0.8 A 43 A
maximum	45 A
duration of inrush current peak at application of control 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	306 mm
width	185 mm
depth	203 mm
required spacing with side-by-side mounting	40
• forwards	10 mm
backwards	0 mm
• upwards	100 mm
• downwards	75 mm
• at the side	5 mm
weight without packaging	9.1 kg
Connections/ Terminals	
type of electrical connection	husher connection
for main current circuit	busbar connection
• for control circuit	spring-loaded terminals
width of connection bar maximum wire length for thermistor connection	25 mm
 with conductor cross-section = 0.5 mm² maximum 	50 m
 with conductor cross-section = 0.5 mm² maximum with conductor cross-section = 1.5 mm² maximum 	150 m
with conductor cross-section = 1.5 mm² maximum 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 (16 95 mm²)
for DIN cable lug for main contacts sitenace for DIN cable lug for main contacts finely stranded	2x (10 35 mm ²) 2x (25 120 mm ²)
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 mm ²)
for AWG cables for control circuit solid	2x (24 16)
 for AWG cables for control circuit finely stranded with 	2x (24 16) 2x (24 16)
core end processing	
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 	10 14 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	89 124 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	5 000 m, Derating as of 1000 m, see catalog
during operation	-25 +60 °C; Please observe derating at temperatures of 40 °C or above
during operation orage and transport	-40 +80 °C
environmental category	21/C (no ice formation only accessional condensation) 2C2 (no cell mist) 2C2
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 ge 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
ommunication/ Protocol	
communication module is supported	
 PROFINET standard 	Yes
 PROFINET high-feature 	Yes
EtherNet/IP	Yes
Modbus RTU	Yes
Modbus TCP	Yes
PROFIBUS	Yes
L/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; lq = 10 kA
- usable for High Faults at 460/480 V according to UL	Siemens type: 3VA52, max. 250 A; Iq max = 65 kA
— usable for Standard Faults at 460/480 V at inside- delta circuit according to UL	Siemens type: 3VA52, max. 250 A; lq = 10 kA
 usable for High Faults at 460/480 V at inside-delta circuit according to UL 	Siemens type: 3VA52, max. 250 A; lq max = 65 kA
 — usable for Standard Faults at 575/600 V according to UL 	Siemens type: 3VA52, max. 250 A; Iq = 10 kA
 — usable for High Faults at 575/600 V at inside-delta circuit according to UL 	Siemens type: 3VA52, max. 250 A; lq max = 65 kA
 — usable for Standard Faults at 575/600 V at inside- delta circuit according to UL 	Siemens type: 3VA52, max. 250 A; lq = 10 kA
of the fuse	
 — usable for Standard Faults up to 575/600 V according to UL 	Type: Class RK5 / K5, max. 400 A; lq = 10 kA
— usable for High Faults up to 575/600 V according to UL	Type: Class J / L, max. 350 A; Iq = 100 kA
 — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class RK5 / K5, max. 400 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	50 hp
• at 220/230 V at 50 °C rated value	50 hp
● at 460/480 V at 50 °C rated value	100 hp
 at 200/208 V at inside-delta circuit at 50 °C rated value 	75 hp
 at 220/230 V at inside-delta circuit at 50 °C rated value 	100 hp
• at 460/480 V at inside-delta circuit at 50 °C rated value	200 hp
contact rating of auxiliary contacts according to UL	R300-B300
afety 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
TEX	
certificate of suitability	Vac
• ATEX	Yes
	Yes
 according to ATEX directive 2014/34/EU 	BVS 18 ATEX F 003 X

type of protection acco	rding to ATEV direct					
hardwaro fault tolorono	ruing to ATEX direct	ive 2014/34/EU	II (2)G [Ex eb Gb [Ex db Mb]] [Ex db Gb] [Ex p	xb Gb], II (2)D [Ex tl	b Db] [Ex pxb Db], I (M2
ATEX	e according to IEC 6	1508 relating to	0			
PFDavg with low demar relating to ATEX	nd rate according to	IEC 61508	0.008			
PFHD with high demand to ATEX	d rate according to E	N 62061 relating	5E-7 1/h			
Safety Integrity Level (S to ATEX	SIL) according to IEC	61508 relating	SIL1			
T1 value for proof test i IEC 61508 relating to A		e according to	3 a			
ertificates/ approvals						
General Product Appro	oval					EMC
SP.		Confirmation	(Ŀ	EHC	RCM
For use in hazardous lo	ocations	Declaration of 0 formity	Con- Test Cer	tificates M	larine / Shipping	
IECEx	KEx ATEX	CE EG-Konf.		<u>st Certific-</u> <u>st Report</u>	ABS	BUREAU VERITAS
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