SIEMENS

Data sheet

3RW5515-1HA04



SIRIUS soft starter 200-480 V 25 A, 24 V AC/DC Screw 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 	3RV2032-4EA10; Type of coordination 1, Iq = 65 kA, CLASS 10		
 of circuit breaker usable at 500 V 	3RV2032-4EA10; Type of coordination 1, Iq = 15 kA, CLASS 10		
 of circuit breaker usable at 400 V at inside-delta circuit 	3RV2032-4VA10; Type of coordination 1, Iq = 65 kA, CLASS 10		
 of circuit breaker usable at 500 V at inside-delta circuit 	3RV2032-4VA10; Type of coordination 1, Iq = 15 kA, CLASS 10		
 of the gG fuse usable up to 690 V 	3NA3822-6; Type of coordination 1, Iq = 65 kA		
 of the gG fuse usable at inside-delta circuit up to 500 V 	3NA3822-6; Type of coordination 1, Iq = 65 kA		
 of full range R fuse link for semiconductor protection usable up to 690 V 	<u>3NE1817-0; Type of coordination 2, Iq = 65 kA</u>		
 of back-up R fuse link for semiconductor protection usable up to 690 V 	<u>3NE8021-1; Type of coordination 2, Iq = 65 kA</u>		
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 %		

accuracy class

current limiting value [%] adjustable

breakaway voltage [%] adjustable

breakaway time adjustable

number of parameter sets

certificate of suitability

CE markingUL approval

125 ... 800 %

40 ... 100 %

5 (based on IEC 61557-12)

0 ... 2 s 3

Yes

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	1 600 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		
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		
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 Diboron trioxide - 1303-86-2 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		
• min/max pointer	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		

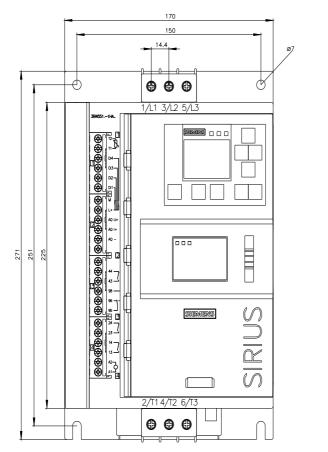
voltage ramp	Yes				
torque control	Yes				
 combined braking 	Yes				
 analog output 	Yes; 4 20 mA (default) / 0 10 V				
 programmable control inputs/outputs 	Yes				
 condition monitoring 	Yes				
 automatic parameterisation 	Yes				
 application wizards 	Yes				
 alternative run-down 	Yes				
 emergency operation mode 	Yes				
 reversing operation 	Yes				
 soft starting at heavy starting conditions 	Yes				
Power Electronics					
operational current					
• at 40 °C rated value	25 A				
• at 40 °C rated value minimum	5 A				
• at 50 °C rated value	22.3 A				
• at 60 °C rated value	19.6 A				
operational current at inside-delta circuit					
● at 40 °C rated value	43.3 A				
• at 50 °C rated value	39 A				
• at 60 °C rated value	33.9 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	-15 %				
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	5.5 kW				
 at 230 V at inside-delta circuit at 40 °C rated value 	11 kW				
• at 400 V at 40 °C rated value	11 kW				
 at 400 V at inside-delta circuit at 40 °C rated value 	18.5 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	8 W				
● at 50 °C after startup	7 W				
● at 60 °C after startup	6 W				
power loss [W] at AC at current limitation 350 %					
● at 40 °C during startup	364 W				
● at 50 °C during startup	309 W				
• at 60 °C during startup	262 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/DC				
control supply voltage at AC					
• at 50 Hz rated value	24 V				
• at 60 Hz rated value	24 V				
relative negative tolerance of the control supply voltage at AC at 50 Hz	-20 %				
relative positive tolerance of the control supply voltage at AC at 50 Hz	20 %				
relative negative tolerance of the control supply voltage at AC at 60 Hz	-20 %				

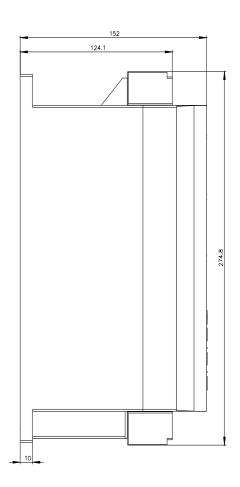
AC at 60 Hz				
control supply voltage frequency	50 60 Hz			
relative negative tolerance of the control supply voltage frequency	-10 %			
relative positive tolerance of the control supply voltage frequency	10 %			
 control supply voltage at DC rated value 	24 V			
relative negative tolerance of the control supply voltage at DC	-20 %			
relative positive tolerance of the control supply voltage at DC	20 %			
control supply current in standby mode rated value	420 mA			
holding current in bypass operation rated value	820 mA			
inrush current by closing the bypass contacts maximum	0.91 A			
inrush current peak at application of control supply voltage maximum	7.5 A			
duration of inrush current peak at application of control supply voltage	20 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	275 mm			
width	170 mm			
depth	152 mm			
required spacing with side-by-side mounting				
forwards	10 mm			
backwards	0 mm			
upwards	100 mm			
downwards	75 mm			
at the side	75 mm			
• at the side weight without packaging				
Connections/ Terminals	2.3 kg			
type of electrical connection				
for main current circuit	screw-type terminals			
• for control circuit	screw-type terminals			
wire length for thermistor connection	50			
• with conductor cross-section = 0.5 mm ² maximum	50 m			
• with conductor cross-section = 1.5 mm ² maximum	150 m			
• with conductor cross-section = 2.5 mm ² maximum	250 m			
type of connectable conductor cross-sections				
for main contacts				
— solid	2x (1.0 2.5 mm²), 2x (2.5 10 mm²)			
 finely stranded with core end processing 	2x (1.0 2.5 mm²), 2x (2.5 6.0 mm²)			
 for AWG cables for main current circuit solid 	2x (16 12), 2x (14 8)			
type of connectable conductor cross-sections				
 for control circuit solid 	1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)			

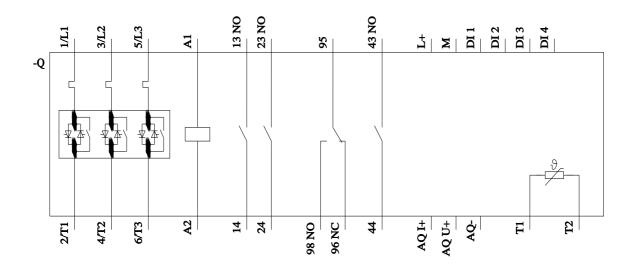
for control circuit finely stranded with core end processing	1x (0.5 2.5 mm ²), 2x (0.5 1.5 mm ²)		
for AWG cables for control circuit solid	1x (20 12), 2x (20 14)		
wire length			
 between soft starter and motor maximum 	800 m		
 at the digital inputs at DC maximum 	1 000 m		
tightening torque			
 for main contacts with screw-type terminals 	2 2.5 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 	18 22 lbf·in		
 for auxiliary and control contacts with screw-type 	7 10.3 lbf·in		
terminals			
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)		
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: 3RV2742, max. 70 A or 3VA51, max. 80 A; Iq = 5 kA		
— 60/480 V according to UL	Siemens type: 3RV2742, max.40 A or 3VA51, max. 60 A; Ig max = 65 kA		
— at 460/480 V at inside-delta circuit according to UL	Siemens type: 3RV2742, max. 40 A or 3VA51, max. 60 A, iq max – 65 kA Siemens type: 3RV2742, max. 70 A or 3VA51, max. 80 A; lq = 5 kA		
— 60/480 V at inside-delta circuit according to UL	Siemens type: $3VA51$, max. 60 A; Iq max = 65 kA		
— at 575/600 V according to UL	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 80 A; lq = 5 kA		
— 75/600 V at inside-delta circuit according to UL	Siemens type: $3VA51$, max. 60 A ; Iq max = 65 kA		
— at 575/600 V at inside-delta circuit according to UL	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 80 A; lq = 5 kA		
of the fuse			
 usable for Standard Faults up to 575/600 V according to UL 	Type: Class RK5 / K5, max. 100 A; lq = 5 kA		
— usable for High Faults up to 575/600 V according to UL	Type: Class J / L, max. 100 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. 100 A; lq = 5 kA		
— usable for High Faults at inside-delta circuit up to 575/600 V according to UL	Type: Class J / L, max. 100 A; Iq = 100 kA		
operating power [hp] for 3-phase motors			
• at 200/208 V at 50 °C rated value	5 hp		
• at 220/230 V at 50 °C rated value	7.5 hp		
• at 460/480 V at 50 °C rated value	15 hp		
 at 200/208 V at inside-delta circuit at 50 °C rated value 	10 hp		
at 220/200 V at inside-delta circuit at 50 °C rated value	10 hp		
• at 460/480 V at inside-delta circuit at 50 °C rated value	25 hp		
contact rating of auxiliary contacts according to UL	R300-B300		
Electrical Safety			

protection class IP on the f	ront according to I	EC 60529	IP20			
touch protection on the from	nt according to IEC	60529	finger-safe, for vertical contact from the front			
ATEX						
Safety Integrity Level (SIL) to ATEX	according to IEC 6	1508 relating	SIL1			
PFHD with high demand rat relating to ATEX	te according to IEC	61508	5E-7 1/h			
PFDavg with low demand ra relating to ATEX	ate according to IE	C 61508	0.008			
hardware fault tolerance ac ATEX	cording to IEC 615	08 relating to	0			
T1 value for proof test inter IEC 61508 relating to ATEX		according to	3 а			
certificate of suitability						
• ATEX			Yes			
• IECEx			Yes			
 according to ATEX dire 	ective 2014/34/EU		BVS 18 ATEX F 003 X			
type of protection accordin	g to ATEX directive	e 2014/34/EU		b] [Ex pxb Gb], II (2)D [Ex tb	Db] [Ex pxb Db], I (M2)	
			[Ex db Mb]			
Approvals Certificates						
General Product Approval						
CE EG-Konf.	UK CA		Confirmation		EAC	
EMV		For use in haza	ardous locations	Test Certificates	Marine / Shipping	
RCM	KC	IECEX	KEX ATEX	<u>Type Test Certific-</u> ates/Test Report	ABS	
Marine / Shipping			other	Environment		
	Llovets Register uis	PRS	Confirmation	Siemens EcoTech	EPD	
Environment						
Environmental Con- firmations						
Further information						
Information on the packagin	ng					
https://support.industry.sieme	ens.com/cs/ww/en/vi					
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Characteristic: Tripping cha	aracteristics, I ² t, Le	t-through curren	t			
https://support.industry.sieme Characteristic: Installation a http://www.automation.sieme	altitude			biecttype=14&aridview=view	1	
Simulation Tool for Soft Sta					<u>.</u>	

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