SIEMENS

Data sheet

3RW5216-3TC05



SIRIUS soft starter 200-600 V 32 A, 24 V AC/DC spring-type terminals Thermistor input

product brand name	SIRIUS		
product category	Hybrid switching devices		
product designation	Soft starter		
product type designation	3RW52		
manufacturer's article number			
 of standard HMI module usable 	<u>3RW5980-0HS00</u>		
 of high feature HMI module usable 	<u>3RW5980-0HF00</u>		
 of communication module PROFINET standard usable 	<u>3RW5980-0CS00</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 	3RV2032-4VA10; Type of coordination 1, Iq = 65 kA, CLASS 10		
 of circuit breaker usable at 500 V 	3RV2032-4VA10; Type of coordination 1, Iq = 10 kA, CLASS 10		
 of circuit breaker usable at 400 V at inside-delta circuit 	3RV2032-4JA10; Type of coordination 1, Iq = 65 kA, CLASS 10		
 of circuit breaker usable at 500 V at inside-delta circuit 	3RV2032-4JA10; Type of coordination 1, Iq = 10 kA, CLASS 10		
 of the gG fuse usable up to 690 V 	3NA3824-6; Type of coordination 1, Iq = 65 kA		
 of the gG fuse usable at inside-delta circuit up to 500 V 	3NA3824-6; Type of coordination 1, Iq = 65 kA		
 of full range R fuse link for semiconductor protection usable up to 690 V 	<u>3NE1818-0; Type of coordination 2, Iq = 65 kA</u>		
 of back-up R fuse link for semiconductor protection usable up to 690 V 	<u>3NE8022-1; Type of coordination 2, Iq = 65 kA</u>		
General technical data			
starting voltage [%]	30 100 %		
stopping voltage [%]	50 %; non-adjustable		
start-up ramp time of soft starter	0 20 s		

stopping voltage [%]	50 %; non-adjustable			
start-up ramp time of soft starter	0 20 s			
current limiting value [%] adjustable	130 700 %			
certificate of suitability				
CE marking	Yes			
UL approval	Yes			
CSA approval	Yes			
product component				
HMI-High Feature	No			
 is supported HMI-Standard 	Yes			
 is supported HMI-High Feature 	Yes			
product feature integrated bypass contact system	Yes			
number of controlled phases	3			
trip class	CLASS 10A (default) / 10E / 20E; acc. to IEC 60947-4-2			
buffering time in the event of power failure				
for main current circuit	100 ms			
 for control circuit 	100 ms			



insulation voltage rated value	600 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			
surge voltage resistance rated value	6 kV			
maximum permissible voltage for protective separation				
 between main and auxiliary circuit 	600 V			
shock resistance	15 g / 11 ms, from 12 g / 11 ms with potential contact lifting			
vibration resistance	15 mm to 6 Hz; 2g to 500 Hz			
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				
 ramp-up (soft starting) 	Yes			
• ramp-down (soft stop)	Yes			
Soft Torque	Yes			
adjustable current limitation	Yes			
pump ramp down	Yes			
intrinsic device protection	Yes			
motor overload protection	Yes; Full motor protection (thermistor motor protection and electronic motor			
	overload protection)			
 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; By turning off the control supply voltage			
 communication function 	Yes			
 operating measured value display 	Yes; Only in conjunction with special accessories			
• error logbook	Yes; Only in conjunction with special accessories			
via software parameterizable	No			
via software configurable	Yes			
PROFlenergy	Yes; in connection with the PROFINET Standard communication module			
• firmware update	Yes			
removable terminal for control circuit	Yes			
torque control	No			
analog output	No			
Power Electronics	INU			
operational current				
at 40 °C rated value	32 A			
at 40 °C rated value at 50 °C rated value				
	28.4 A			
at 60 °C rated value	26 A			
operational current at inside-delta circuit	EE 4 A			
• at 40 °C rated value	55.4 A			
• at 50 °C rated value	49 A			
• at 60 °C rated value	45 A			
operating voltage				
• rated value	200 600 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 	7.5 kW			
	7.5 kW 15 kW			
• at 230 V at 40 °C rated value				
 at 230 V at 40 °C rated value at 230 V at inside-delta circuit at 40 °C rated value at 400 V at 40 °C rated value 	15 kW 15 kW			
 at 230 V at 40 °C rated value at 230 V at inside-delta circuit at 40 °C rated value 	15 kW			



Operating frequency 1 rated value	50 Hz
Operating frequency 2 rated value	60 Hz
elative negative tolerance of the operating frequency	-10 %
elative positive tolerance of the operating frequency	10 %
djustable motor current	
 at rotary coding switch on switch position 1 	14 A
 at rotary coding switch on switch position 2 	15.2 A
 at rotary coding switch on switch position 3 	16.4 A
 at rotary coding switch on switch position 4 	17.6 A
 at rotary coding switch on switch position 5 	18.8 A
 at rotary coding switch on switch position 6 	20 A
 at rotary coding switch on switch position 7 	21.2 A
 at rotary coding switch on switch position 8 	22.4 A
 at rotary coding switch on switch position 9 	23.6 A
 at rotary coding switch on switch position 10 	24.8 A
 at rotary coding switch on switch position 11 	26 A
 at rotary coding switch on switch position 12 	27.2 A
at rotary coding switch on switch position 13	28.4 A
 at rotary coding switch on switch position 14 	29.6 A
 at rotary coding switch on switch position 15 	30.8 A
 at rotary coding switch on switch position 16 	32 A
• minimum	14 A
djustable motor current	
• for inside-delta circuit at rotary coding switch on switch position 1	24.2 A
 for inside-delta circuit at rotary coding switch on switch position 2 	26.3 A
 for inside-delta circuit at rotary coding switch on switch position 3 for inside delta circuit at rotary coding switch on switch 	28.4 A
 for inside-delta circuit at rotary coding switch on switch position 4 for inside delta circuit at rotary coding switch on switch 	30.5 A 32.6 A
 for inside-delta circuit at rotary coding switch on switch position 5 for inside-delta circuit at rotary coding switch on switch 	34.6 A
 of inside delta circuit at rotary coding switch on switch for inside-delta circuit at rotary coding switch on switch 	36.7 A
 position 7 for inside-delta circuit at rotary coding switch on switch 	38.8 A
position 8 • for inside-delta circuit at rotary coding switch on switch	40.9 A
position 9for inside-delta circuit at rotary coding switch on switch	43 A
position 10for inside-delta circuit at rotary coding switch on switch	45 A
 position 11 for inside-delta circuit at rotary coding switch on switch 	47.1 A
 position 12 for inside-delta circuit at rotary coding switch on switch position 13 	49.2 A
 for inside-delta circuit at rotary coding switch on switch position 14 	51.3 A
 for inside-delta circuit at rotary coding switch on switch position 15 	53.3 A
 for inside-delta circuit at rotary coding switch on switch position 16 	55.4 A
at inside-delta circuit minimum	24.2 A
ninimum load [%]	15 %; Relative to smallest settable le
ower loss [W] for rated value of the current at AC	
• at 40 °C after startup	22 W
• at 50 °C after startup	21 W
	20 W
at 60 °C after startup	
ower loss [W] at AC at current limitation 350 %	
•	531 W 449 W



Control circuit/ Control				
	AC/DC			
type of voltage of the control supply voltage				
control supply voltage at AC	24.1/			
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 %			
relative positive tolerance of the control supply voltage at AC at 60 Hz	20 %			
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	160 mA			
holding current in bypass operation rated value	360 mA			
inrush current by closing the bypass contacts maximum	0.75 A			
inrush current peak at application of control supply voltage maximum	3.3 A			
duration of inrush current peak at application of control supply voltage	12.1 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	1			
number of digital outputs	3			
not parameterizable	2			
digital output version	2 normally-open contacts (NO) / 1 changeover contact (CO)			
number of analog outputs	0			
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	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back			
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	5 mm			
weight without packaging	2.3 kg			
Connections/ Terminals				
type of electrical connection				
for main current circuit	screw-type terminals			
for control circuit	spring-loaded terminals			
wire length for thermistor connection				
-				

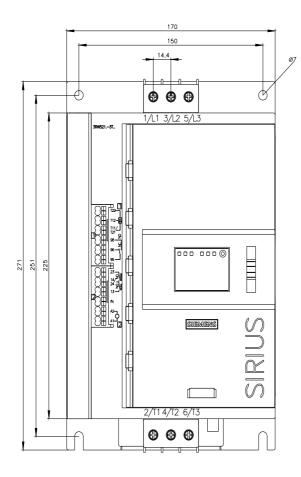


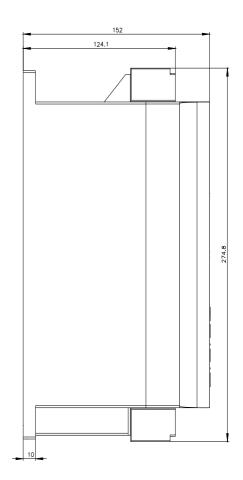
• with conductor cross-section = 1.5 mm ² maximum				
• with conductor cross-section = 2.5 mm ² maximum	250 m			
type of connectable conductor cross-sections				
for main contacts	$2x/(4,0) = 0.5 mm^2$ $2x/(2,5) = 40 mm^2$			
— solid	2x (1.0 2.5 mm ²), 2x (2.5 10 mm ²)			
— finely stranded with core end processing	2x (1.0 2.5 mm ²), 2x (2.5 6.0 mm ²)			
for AWG cables for main current circuit solid	2x (16 12), 2x (14 8)			
type of connectable conductor cross-sections	0. (0.05 4.5 mm²)			
• for control circuit solid	2x (0.25 1.5 mm ²)			
 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 core end processing 	2x (24 16)			
wire length				
 between soft starter and motor maximum 	800 m			
 at the digital inputs at AC maximum 	100 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 	0.8 1.2 N·m			
terminals				
tightening torque [lbf·in]				
 for main contacts with screw-type terminals 	18 22 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	o oco m, Doraling as or roos m, see calalog			
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			
a during transport according to IEC 60721	inside the devices), 1M4			
• during transport according to IEC 60721 EMC emitted interference	2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m) acc. to IEC 60947-4-2: Class A			
Communication/ Protocol	acc. to 120 00047-4-2. 01233 A			
communication module is supported				
PROFINET standard	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. 100 A; Iq = 5 kA			
— usable for High Faults at 460/480 V according to UL	Siemens type: 3RV2742, max.40 A or 3VA51, max. 60 A; Iq max = 65 kA			
 usable for Standard Faults at 460/480 V at inside- delta circuit according to UL 	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; lq = 5 kA			
— usable for High Faults at 460/480 V at inside-delta circuit according to UL	Siemens type: 3VA51, max. 60 A; lq max = 65 kA			
 — usable for Standard Faults at 575/600 V according to UL 	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; Iq = 5 kA			
 — usable for Standard Faults at 575/600 V at inside- delta circuit according to UL 	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; Iq = 5 kA			
• of the fuse				
 — usable for Standard Faults up to 575/600 V according to UL 	Type: Class RK5 / K5, max. 125 A; Iq = 5 kA			
— usable for High Faults up to 575/600 V according to UL	Type: Class J / L, max. 125 A; Iq = 100 kA			
 — usable for Standard Faults at inside-delta circuit up 	Type: Class RK5 / K5, max. 125 A; Iq = 5 kA			

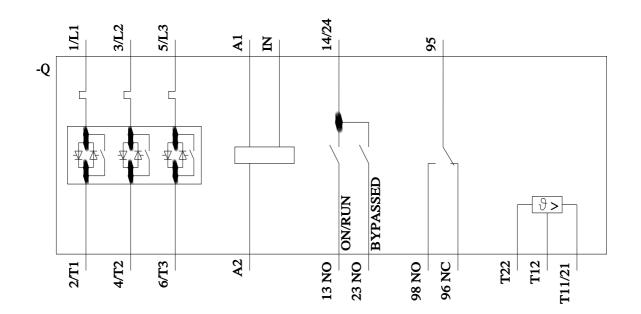


to 575/600 V accord	ing to UL					
— usable for High F 575/600 V according	aults at inside-delta	a circuit up to	Type: Class J	/ L, max. 125 A	lq = 100 kA	
	 erating power [hp] for 3-phase motors at 200/208 V at 50 °C rated value 		7.5 hp			
• at 220/230 V at 50 °C r			10 hp			
• at 460/480 V at 50 °C r			20 hp			
• at 575/600 V at 50 °C r			25 hp			
			·			
 at 200/208 V at inside- at 220/230 V at inside- 			15 hp			
			15 hp			
 at 460/480 V at inside- at 575/600 V at inside- 			30 hp			
			40 hp			
contact rating of auxiliary c Safety related data	ontacts according	g to UL	R300-B300			
		150 00520	1020	_		
protection class IP on the fi			IP20		h far an the s far ant	
touch protection on the from		C 60529	, v	r vertical contac		
electromagnetic compatibil	ity		in accordance	with IEC 60947	-4-2	
Certificates/ approvals						
General Product Approval						EMC
						•
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Declaration of Conformity		Test Certificat	es Marin	e / Shipping		
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