SIEMENS

Data sheet

3RW5216-3TC14



SIRIUS soft starter 200-480 V 32 A, 110-250 V AC 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 	<u>3RV2032-4JA10; Type of coordination 1, Iq = 10 kA, CLASS 10</u>			
 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 	<u>3NA3824-6; Type of coordination 1, Iq = 65 kA</u>			
 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 50 %			
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 is supported				
HMI-Standard	Yes			
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	_ 3, acc. to IEC 60947-4-2 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 safe isolation					
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 acc. to IEC 60947-4-2	AC 53a				
reference code acc. to IEC 81346-2	Q				
Substance Prohibitance (Date)	15.02.2018 00:00:00				
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					
operational current					
• at 40 °C rated value	32 A				
• at 50 °C rated value	28 A				
• at 60 °C rated value	26 A				
operational current at inside-delta circuit					
• 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	200 480 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 	7.5 kW			
 at 230 V at inside-delta circuit at 40 °C rated value 	15 kW			
 at 400 V at 40 °C rated value 	15 kW			
 at 400 V at inside-delta circuit at 40 °C rated value 	22 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 %			
adjustable 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			
adjustable 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 	28.4 A			
 for inside-delta circuit at rotary coding switch on switch position 4 	30.5 A			
 for inside-delta circuit at rotary coding switch on switch position 5 	32.6 A			
 for inside-delta circuit at rotary coding switch on switch position 6 	34.6 A			
 for inside-delta circuit at rotary coding switch on switch position 7 	36.7 A			
 for inside-delta circuit at rotary coding switch on switch position 8 	38.8 A			
 for inside-delta circuit at rotary coding switch on switch position 9 	40.9 A			
 for inside-delta circuit at rotary coding switch on switch position 10 	43 A			
 for inside-delta circuit at rotary coding switch on switch position 11 for inside delta circuit at rotary coding switch on 	45 A			
 for inside-delta circuit at rotary coding switch on switch position 12 for inside delta circuit at rotary coding switch on 	47.1 A			
 for inside-delta circuit at rotary coding switch on switch position 13 for inside-delta circuit at rotary coding switch on 	49.2 A 51.3 A			
 for inside-delta circuit at rotary coding switch on switch position 14 for inside-delta circuit at rotary coding switch on 	53.3 A			
 for inside-delta circuit at rotary coding switch on switch position 15 for inside-delta circuit at rotary coding switch on 	55.4 A			
switch position 16				

at inside-delta circuit minimum	24.2 A					
minimum load [%]	15 %; Relative to smallest settable le					
power loss [W] for rated value of the current at AC	22.14/					
• at 40 °C after startup	22 W 21 W					
• at 50 °C after startup	21 W					
• at 60 °C after startup	20 W					
power loss [W] at AC at current limitation 350 %	E21 \N/					
• at 40 °C during startup	531 W					
• at 50 °C during startup	449 W					
• at 60 °C during startup	395 W					
Control circuit/ Control	10					
type of voltage of the control supply voltage	AC					
control supply voltage at AC	440 05014					
• 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	30 mA					
holding current in bypass operation rated value	75 mA					
locked-rotor current at close of bypass contact	0.17 A					
maximum						
inrush current peak at application of control supply voltage maximum	12.2 A					
duration of inrush current peak at application of control supply voltage	2.2 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 inputs for thermistor connection	1; Type A PTC or Klixon / Thermoclick					
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					
forwardsbackwards	10 mm 0 mm					

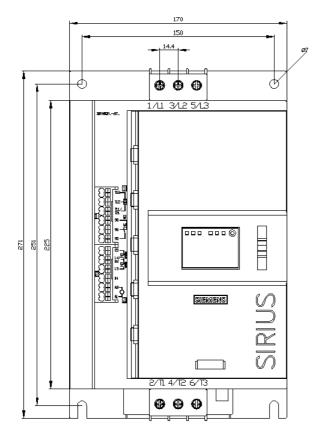
downwards	75 mm			
at the side	5 mm			
weight without packaging	2.3 kg			
Connections/ Terminals				
type of electrical connection				
for main current circuit	screw-type terminals			
 for control circuit 	spring-loaded terminals			
wire length for thermistor connection				
 with conductor cross-section = 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 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)			
at AWG cables for main current circuit solid	2x (16 12), 2x (14 8)			
type of connectable conductor cross-sections				
 for control circuit solid 	2x (0.25 1.5 mm²)			
 for control circuit finely stranded with core end 	2x (0.25 1.5 mm²)			
processing				
at AWG cables for control circuit solid	2x (24 16)			
 at 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			
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 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	2K6 (no ico formation, only approximal condensation), 202 (no oct			
during operation acc. 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 acc. to IEC 60721	1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4			
• during transport acc. 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				
communication module is supported	Vee			
PROFINET standard EtherNet/IP	Yes			
EtherNet/IP Modbus BTU	Yes			
Modbus RTU Modbus TCP	Yes			
Modbus TCP PROFIBUS	Yes			
UL/CSA ratings				
manufacturer's article number • of circuit breaker				
 of circuit breaker — usable for Standard Faults at 460/480 V 	Signaps type: $3PV2742$ may 70 Å or $3VA51$ may 100 Å; $a = 5 kA$			
according to UL	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; lq = 5 kA Siemens type: 3RV2742, max.40 A or 3VA51, max. 60 A; lq max = 65			
 — usable for High Faults at 460/480 V according 				

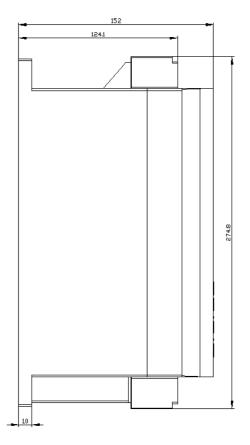
1		1	1.0				
to UL	Otenderd Faults at 400/44		kA Sigmons type: $3D/(27/2)$ may 70 Å or $3/(451)$ may 100 Å; la = 5 kÅ				
inside-delta c	 — usable for Standard Faults at 460/480 V at inside-delta circuit according to UL 			Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; Iq = 5 kA			
	 — usable for High Faults at 460/480 V at inside- delta circuit according to UL 			e: 3VA51, max	. 60 A; lq max = 65 kA		
	— usable for Standard Faults at 575/600 V according to UL			e: 3RV2742, m	ax. 70 A or 3VA51, m	ax. 100 A; lq = 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 	5						
	 — usable for Standard Faults up to 575/600 V according to UL 			Type: Class RK5 / K5, max. 125 A; lq = 5 kA			
	— usable for High Faults up to 575/600 V according to UL			Type: Class J / L, max. 125 A; Iq = 100 kA			
	Standard Faults at inside- 75/600 V according to UL		Type: Class	RK5 / K5, max	. 125 A; lq = 5 kA		
	High Faults at inside-delta according to UL	a circuit up	Type: Class	J / L, max. 125	A; lq = 100 kA		
operating 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 rated value		10 hp				
• at 460/480 V at	50 °C rated value		20 hp				
● at 200/208 V at value	inside-delta circuit at 50 °	C rated	15 hp				
• at 220/230 V at value	inside-delta circuit at 50 °	C rated	15 hp				
value	inside-delta circuit at 50 °		30 hp				
contact rating of auxiliary contacts according to UL			R300-B300				
Safety related data							
protection class IP on the front acc. to IEC 60529			IP20				
touch protection on the front acc. to IEC 60529			finger-safe, for vertical contact from the front				
electromagnetic compatibility			in accordance with IEC 60947-4-2				
Certificates/ approvals	S		_	_			
General Product Ap	pproval				EMC	Declaration of Conformity	
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Test Certificates	Marine / Shipping						
<u>Type Test Certific-</u> ates/Test Report	ABS	BUREAU VERITAS	ļ	Lloyd's Kegister uis	PRS	DNV-GL	
other							
Confirmation							

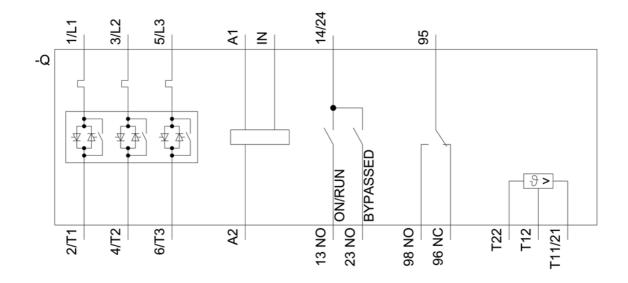
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