SIEMENS

Data sheet

3RW5246-6AC14



SIRIUS soft starter 200-480 V 370 A, 110-250 V AC Screw terminals Analog output

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 	3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10		
 of circuit breaker usable at 500 V 	3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10		
 of circuit breaker usable at 400 V at inside-delta circuit 	3VA2580-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10		
 of circuit breaker usable at 500 V at inside-delta circuit 	<u>3VA2580-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10</u>		
 of the gG fuse usable up to 690 V 	2x3NA3365-6; Type of coordination 1, Iq = 65 kA		
 of the gG fuse usable at inside-delta circuit up to 500 V 	2x3NA3365-6; Type of coordination 1, Iq = 65 kA		
 of full range R fuse link for semiconductor protection usable up to 690 V 	<u>3NE1334-2; Type of coordination 2. Iq = 65 kA</u>		
 of back-up R fuse link for semiconductor protection usable up to 690 V 	<u>3NE3336; 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 100 ms			
	600 V			
insulation voltage rated value				
degree of pollution	3, acc. to IEC 60947-4-2 6 kV			
impulse voltage rated value				
blocking voltage of the thyristor maximum service factor	1 600 V			
surge voltage resistance rated value	6 kV			
maximum permissible voltage for safe isolation	600 M			
between main and auxiliary circuit shock resistance	600 V			
	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	Vec			
• 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; Electronic motor overload protection			
 evaluation of thermistor motor protection 	No			
 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 	Yes; 4 20 mA (default) / 0 10 V (parameterizable with High Feature HMI)			
Power Electronics				
operational current				
• at 40 °C rated value	370 A			
• at 50 °C rated value	328 A			
• at 60 °C rated value	300 A			
operational current at inside-delta circuit				
• at 40 °C rated value	641 A			
• at 50 °C rated value	568 A			
• at 60 °C rated value	519 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 	110 kW
 at 230 V at inside-delta circuit at 40 °C rated value 	200 kW
 at 400 V at 40 °C rated value 	200 kW
 at 400 V at inside-delta circuit at 40 °C rated value 	355 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 	160 A
 at rotary coding switch on switch position 2 	174 A
 at rotary coding switch on switch position 3 	188 A
 at rotary coding switch on switch position 4 	202 A
 at rotary coding switch on switch position 5 	216 A
 at rotary coding switch on switch position 6 	230 A
 at rotary coding switch on switch position 7 	244 A
 at rotary coding switch on switch position 8 	258 A
at rotary coding switch on switch position 9	272 A
at rotary coding switch on switch position 10	286 A
 at rotary coding switch on switch position 11 	300 A
 at rotary coding switch on switch position 12 	314 A
• at rotary coding switch on switch position 13	328 A
• at rotary coding switch on switch position 14	342 A
at rotary coding switch on switch position 15	356 A
• at rotary coding switch on switch position 16	370 A
• minimum	160 A
 adjustable motor current for inside-delta circuit at rotary coding switch on 	277 A
switch position 1 for inside-delta circuit at rotary coding switch on 	301 A
switch position 2for inside-delta circuit at rotary coding switch on	326 A
 switch position 3 for inside-delta circuit at rotary coding switch on 	350 A
switch position 4	
 for inside-delta circuit at rotary coding switch on switch position 5 	374 A
 for inside-delta circuit at rotary coding switch on switch position 6 	398 A
 for inside-delta circuit at rotary coding switch on switch position 7 	423 A
 for inside-delta circuit at rotary coding switch on switch position 8 	447 A
 for inside-delta circuit at rotary coding switch on switch position 9 	471 A
 for inside-delta circuit at rotary coding switch on switch position 10 	495 A
 for inside-delta circuit at rotary coding switch on switch position 11 	520 A
 for inside-delta circuit at rotary coding switch on switch position 12 	544 A
 for inside-delta circuit at rotary coding switch on switch position 13 	568 A
 for inside-delta circuit at rotary coding switch on switch position 14 	592 A
 for inside-delta circuit at rotary coding switch on switch position 15 	617 A
 for inside-delta circuit at rotary coding switch on switch position 16 	641 A

 at inside-delta circuit minimum 	277 A			
minimum load [%]	_ 277 A 15 %; Relative to smallest settable le			
power loss [W] for rated value of the current at AC				
• at 40 °C after startup	123 W			
• at 50 °C after startup	110 W			
• at 60 °C after startup	110 W 102 W			
power loss [W] at AC at current limitation 350 %				
• at 40 °C during startup	5 575 W			
• at 50 °C during startup	4 706 W			
• at 60 °C during startup	4 157 W			
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	- 10 %			
voltage at AC at 50 Hz				
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	100 mA			
locked-rotor current at close of bypass contact maximum	2.2 A			
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	0			
number of digital outputs	3			
 not parameterizable 	2			
digital output version	2 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	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back			
fastening method	screw fixing			
height	393 mm			
width	210 mm			
depth	203 mm			
required spacing with side-by-side mounting				
required spacing with side-by-side mounting • forwards	10 mm			
	10 mm 0 mm			

	75 mm			
downwards at the side				
	5 mm			
weight without packaging	9.9 kg			
Connections/ Terminals				
type of electrical connection				
• for main current circuit	busbar connection			
for control circuit	screw-type terminals			
width of connection bar maximum	45 mm			
type of connectable conductor cross-sections	$2 \times (50 - 240 \text{ mm}^2)$			
for DIN cable lug for main contacts stranded	2x (50 240 mm ²)			
for DIN cable lug for main contacts finely stranded	2x (70 240 mm²)			
type of connectable conductor cross-sections • for control circuit solid	$1_{1_{1_{1_{1_{1_{1_{1_{1_{1_{1_{1_{1_{1$			
	$1x (0.5 \dots 4.0 \text{ mm}^2), 2x (0.5 \dots 2.5 \text{ mm}^2)$			
 for control circuit finely stranded with core end processing 	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)			
at 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 AC maximum 	100 m			
tightening torque				
 for main contacts with screw-type terminals 	14 24 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 	124 210 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 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 	2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)			
EMC emitted interference	acc. to IEC 60947-4-2: Class A			
Communication/ Protocol				
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 the fuse				
 — usable for Standard Faults up to 575/600 V according to UL 	Type: Class J / L, max. 1200 A; Iq = 18 kA			
 — usable for High Faults up to 575/600 V according to UL 	Type: Class J / L, max. 1200 A; Iq = 100 kA			
 usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 1200 A; Iq = 18 kA			
 usable for High Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 1200 A; Iq = 100 kA			
operating power [hp] for 3-phase motors • at 200/208 V at 50 °C rated value	100 hp			

• at 220/230 V at	50 °C rated value		125 hp			
 at 220/230 V at 50 °C rated value at 460/480 V at 50 °C rated value 		250 hp				
 at 200/208 V at inside-delta circuit at 50 °C rated value 		200 hp				
at 220/230 V at inside-delta circuit at 50 °C rated value		200 hp				
● at 460/480 V at value	inside-delta circuit at 5	50 °C rated	450 hp			
contact rating of au	kiliary contacts accor	ding to UL	R300-B300			
Safety related data						
protection class IP of	on the front acc. to IE	C 60529	IP00; IP20 with cover			
touch protection on	the front acc. to IEC	60529	finger-safe, for vertical of	contact from the front v	vith cover	
electromagnetic cor	npatibility		in accordance with IEC	60947-4-2		
Certificates/ approval	S					
General Product Ap	proval			EMC	Declaration of Conformity	
(S)	(m)	መ	C 0 7	Â	CE	
CSA	ccc		LUL	RCM	EG-Konf.	
Test Certificates	Marine / Shipping					
<u>Type Test Certific-</u> ates/Test Report			Lloyds Register	6		
	ABS	B U R E AU VERITAS	LIKS	PRS	DNV-GL DNGLCBRA	
other						
Confirmation						
urther information						
Information- and Do https://www.siemens.	wnloadcenter (Catalo com/ic10	gs, Brochures,.)			

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RW5246-6AC14

Cax online generator

 $\underline{http://support.automation.siemens.com/WW/CAX order/default.aspx?lang=en\&mlfb=3RW5246-6AC14$

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

https://support.industry.siemens.com/cs/ww/en/ps/3RW5246-6AC14

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5246-6AC14&lang=en

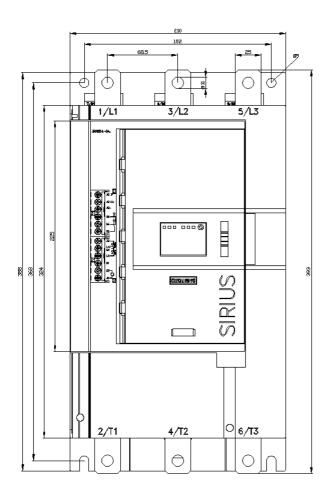
Characteristic: Tripping characteristics, I²t, Let-through current

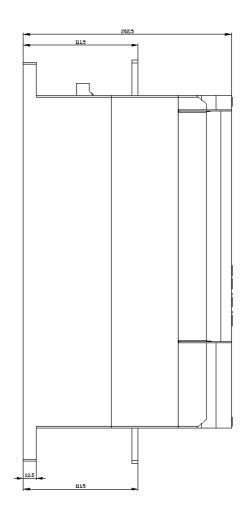
https://support.industry.siemens.com/cs/ww/en/ps/3RW5246-6AC14/char

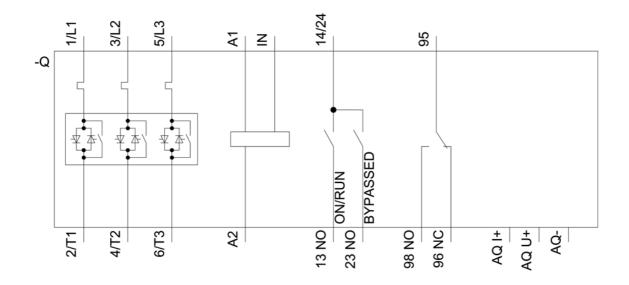
Characteristic: Installation altitude

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5246-6AC14&objecttype=14&gridview=view1 Simulation Tool for Soft Starters (STS)

https://support.industry.siemens.com/cs/ww/en/view/101494917







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