SIEMENS

Data sheet

3RW5248-6AC14



SIRIUS soft starter 200-480 V 570 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 	3VA2580-6HN32-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10		
 of circuit breaker usable at 500 V 	3VA2580-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10		
 of circuit breaker usable at 400 V at inside-delta circuit 	3VA2510-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10		
 of circuit breaker usable at 500 V at inside-delta circuit 	3VA2510-6HN32-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10		
 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>3NE1437-2: Type of coordination 2. lq = 65 kA</u>		
 of back-up R fuse link for semiconductor protection usable up to 690 V 	<u>3NE3340-8; 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	6 kV			
blocking voltage of the thyristor maximum service factor	1 600 V 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-dp (soft starting) • ramp-down (soft stop)	Yes			
	Yes			
Soft Torque adjustable current limitation	Yes			
adjustable current limitation				
• 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	570 A			
• at 50 °C rated value	504 A			
• at 60 °C rated value	460 A			
operational current at inside-delta circuit				
• at 40 °C rated value	987 A			
• at 50 °C rated value	873 A			
• at 60 °C rated value	796 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 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 	160 kW
 at 230 V at inside-delta circuit at 40 °C rated value 	315 kW
 at 400 V at 40 °C rated value 	315 kW
 at 400 V at inside-delta circuit at 40 °C rated value 	560 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 	240 A
 at rotary coding switch on switch position 2 	262 A
 at rotary coding switch on switch position 3 	284 A
 at rotary coding switch on switch position 4 	306 A
 at rotary coding switch on switch position 5 	328 A
 at rotary coding switch on switch position 6 	350 A
 at rotary coding switch on switch position 7 	372 A
 at rotary coding switch on switch position 8 	394 A
 at rotary coding switch on switch position 9 	416 A
 at rotary coding switch on switch position 10 	438 A
 at rotary coding switch on switch position 11 	460 A
 at rotary coding switch on switch position 12 	482 A
 at rotary coding switch on switch position 13 	504 A
 at rotary coding switch on switch position 14 	526 A
 at rotary coding switch on switch position 15 	548 A
 at rotary coding switch on switch position 16 	570 A
• minimum	240 A
adjustable motor current	
 for inside-delta circuit at rotary coding switch on switch position 1 	416 A
 for inside-delta circuit at rotary coding switch on switch position 2 	454 A
 for inside-delta circuit at rotary coding switch on switch position 3 	492 A
 for inside-delta circuit at rotary coding switch on switch position 4 	530 A
 for inside-delta circuit at rotary coding switch on switch position 5 	568 A
• for inside-delta circuit at rotary coding switch on switch position 6	606 A
 for inside-delta circuit at rotary coding switch on switch position 7 	644 A
 for inside-delta circuit at rotary coding switch on switch position 8 for inside delta circuit at rotary coding switch on 	682 A 721 A
 for inside-delta circuit at rotary coding switch on switch position 9 for inside-delta circuit at rotary coding switch on 	721 A 759 A
 for inside-delta circuit at rotary coding switch on switch position 10 for inside-delta circuit at rotary coding switch on 	797 A
 for inside-delta circuit at rotary coding switch on switch position 11 for inside-delta circuit at rotary coding switch on 	835 A
 for inside-delta circuit at rotary coding switch on for inside-delta circuit at rotary coding switch on 	873 A
 for inside-delta circuit at rotary coding switch on for inside-delta circuit at rotary coding switch on 	911 A
 for inside-delta circuit at rotary coding switch on for inside-delta circuit at rotary coding switch on 	949 A
 For inside-delta circuit at rotary coding switch on for inside-delta circuit at rotary coding switch on 	987 A
switch position 16	

	440.4			
at inside-delta circuit minimum	416 A			
minimum load [%]	15 %; Relative to smallest settable le			
power loss [W] for rated value of the current at AC				
 at 40 °C after startup 	183 W			
 at 50 °C after startup 	163 W			
at 60 °C after startup	153 W			
power loss [W] at AC at current limitation 350 %				
 at 40 °C during startup 	10 241 W			
 at 50 °C during startup 	8 500 W			
• at 60 °C during startup	7 663 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 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	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			
fastening method	surface +/- 22.5° tiltable to the front and back screw fixing			
height	393 mm			
width	210 mm			
depth	_ 210 mm 203 mm			
required spacing with side-by-side mounting				
forwards	10 mm			
 borwards 	0 mm			
• upwards	100 mm			

	76		
downwards	75 mm		
at the side	5 mm		
weight without packaging	10.6 kg		
Connections/ Terminals			
 type of electrical connection for main current circuit 	husbar connection		
for control circuit	busbar connection		
width of connection bar maximum	screw-type terminals 45 mm		
type of connectable conductor cross-sections			
for DIN cable lug for main contacts stranded	2x (50 240 mm²)		
 for DIN cable lug for main contacts stranded 	2x (70 240 mm ²)		
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 	1x (0.5 2.5 mm ²), 2x (0.5 1.5 mm ²)		
processing			
 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 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			
 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		
e during transport and to IEC 60794	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	N		
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 Equits up to 575/600 \/	Type: Class $1/1$ may 1600 A: $h = 20 kA$		
— usable for Standard Faults up to 575/600 V according to UL	Type: Class J / L, max. 1600 A; Iq = 30 kA		
 — usable for High Faults up to 575/600 V according to UL 	Type: Class J / L, max. 1200 A; lq = 100 kA		
 — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 1600 A; Iq = 30 kA		
 — usable for High Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 1200 A; lq = 100 kA		
 operating power [hp] for 3-phase motors at 200/208 V at 50 °C rated value 	150 hp		

• at 220/230 V at 50 °C rated value		200 hp		
• at 460/480 V at 50 °C rated value	400 hp			
 at 200/208 V at inside-delta circuit at 50 °C rated value 	300 hp			
 at 220/230 V at inside-delta circuit at 50 °C rated value 	350 hp			
 at 460/480 V at inside-delta circuit at 50 °C rated value 	750 hp			
contact rating of auxiliary contacts according to UL	R300-B300			
Safety related data				
protection class IP on the front acc. to IEC 60529	IP00; IP20 with cover	IP00; IP20 with cover		
touch protection on the front acc. to IEC 60529	finger-safe, for vertical conta	act from the front with	cover	
electromagnetic compatibility	in accordance with IEC 609	47-4-2		
Certificates/ approvals				
General Product Approval		EMC	Declaration of Conformity	
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	LIIL	RCM	EG-Konf.	
Test Certificates Marine / Shipping				
Type Test Certific-	Lloyds	(And)	A LOW DOWN THE A	
ates/Test Report	Register			
ABS	LRS	PRS	DAVOLICIAN	
VERITAS				
other				
Confirmation				
Further information	\			
Information- and Downloadcenter (Catalogs, Brochures, https://www.siemens.com/ic10)			
Industry Mall (Online ordering system)				

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5248-6AC14

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5248-6AC14

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5248-6AC14&lang=en

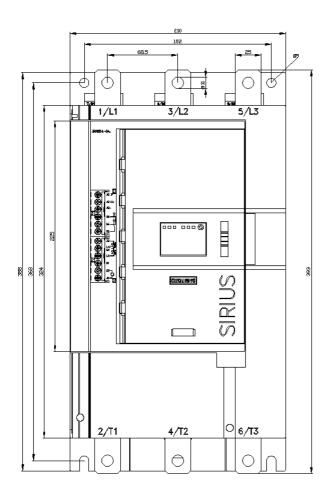
Characteristic: Tripping characteristics, I²t, Let-through current

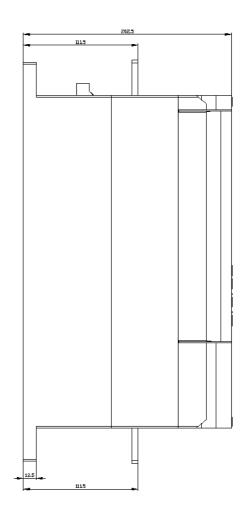
https://support.industry.siemens.com/cs/ww/en/ps/3RW5248-6AC14/char

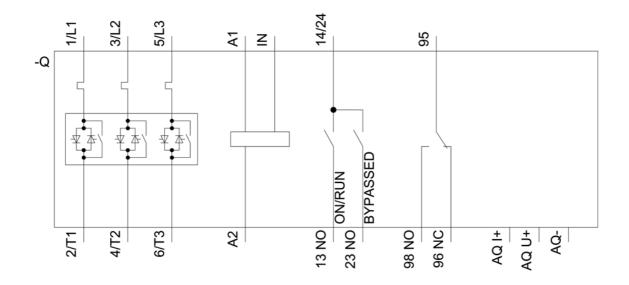
Characteristic: Installation altitude

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5248-6AC14&objecttype=14&gridview=view1 Simulation Tool for Soft Starters (STS)

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







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