SIEMENS

Data sheet 3RW5077-2AB14

SIRIUS



SIRIUS soft starter 200-480 V 570 A, 110-250 V AC Spring-loaded terminals Analog output

Figure similar

product brand name

product brand name	Cittoo
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW50
manufacturer's article number	
 of standard HMI module usable 	3RW5980-0HS01
 of high feature HMI module usable 	3RW5980-0HF00
 of communication module PROFINET standard usable 	3RW5980-0CS00
 of communication module PROFIBUS usable 	3RW5980-0CP00
 of communication module Modbus TCP usable 	3RW5980-0CT00
 of communication module Modbus RTU usable 	3RW5980-0CR00
 of communication module Ethernet/IP 	3RW5980-0CE00
 of circuit breaker usable at 400 V 	3VA2580-6HN32-0AA0; Type of assignment 1, Iq = 65 kA
 of circuit breaker usable at 500 V 	3VA2580-6HN32-0AA0; Type of assignment 1, Iq = 65 kA
 of the gG fuse usable up to 690 V 	2x3NA3365-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	3NE1 437-2; Type of coordination 2, Iq = 65 kA
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE3 340-8; Type of coordination 2, Iq = 65 kA
 of line contactor usable up to 480 V 	3TF68
 of line contactor usable up to 690 V 	3TF68
General technical data	
starting voltage [%]	30 100 %
stopping voltage [%]	50 %; non-adjustable
start-up ramp time of soft starter	0 20 s
ramp-down 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	2
trip class	CLASS 10A / 10E (preset) / 20E; acc. to IEC 60947-4-2
buffering time in the event of power failure	
	100 ms

for control circuit insulation voltage rated value degree of pollution degree voltage rated value impulse voltage rated value blocking voltage of the thyristor maximum 1 600 V service factor 1 surge voltage resistance rated value 6 kV	
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	
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service factor 1 surge voltage resistance rated value 6 kV	
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) 09/23/2019	
product function	
• ramp-up (soft starting) Yes	
• ramp-down (soft stop)	
• 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	
• 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.	ation module
• voltage ramp	
• torque control No	
• analog output Yes; 4 20 mA (default) / 0 10 V (parameterizable with Hi	igh 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	
operating voltage	
● rated value 200 480 V	
relative negative tolerance of the operating voltage -15 %	
relative positive tolerance of the operating voltage 10 %	
operating power for 3-phase motors	
• at 230 V at 40 °C rated value 160 kW	
• at 400 V at 40 °C rated value 315 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	

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minimum to dt 15 15 %; Relative to smallest setable ie	 at rotary coding switch on switch position 16 	570 A		
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duration of inrush current peak at application of control supply voltage design of the overvoltage protection design of short-circuit protection for control circuit **Page 100 A)** **Page 2.2 ms **Page 2.2 ms **Page 3.2 miniature circuit protection for control circuit breaker (Icu= 600 A)**, C4 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 3.2 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 3.3 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 3.3 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.3 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.3 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.3 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.3 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.3 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.4 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.4 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.4 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.4 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.4 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.4 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.4 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.4 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.4 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.4 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.4 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply **Page 4.4 miniature circuit breaker (Icu= 300 A); Is not page 4.4 miniature circuit breaker (I	inrush current by closing the bypass contacts maximum	2.2 A		
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design of short-circuit protection for control 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 number of digital outputs number of digital outputs number of analog output version number of analog outputs switching capacity current of the relay outputs at AC-15 at 250 V rated value at DC-13 at 24 V rated value 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 height width depth 24 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply 1 A Installation (Icu=600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply 1 A Installation (Icu=600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply 1 A Installation (Icu=600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply 2 normally-open contacts (NO) / 1 changeover contact (CO) 1 Contact (Icu=600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply 2 normally-open contacts (NO) / 1 changeover contact (CO) 1 Contact (Icu=600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply 2 normally-open contacts (NO) / 1 changeover contact (CO) 1 Contact (Icu=600 A), C6 miniature circuit breaker (Icu=300 A); Is not part of scope of supply 2 normally-open contacts (NO) / 1 changeover contact (CO) 1 Contact (Icu=600 A), C6 miniature circuit breaker (Icu=300 A); Is not part of scope of supply 2 normally-open contacts (NO) / 1 changeover contact (ICO) 1 Contact (Icu=600 A),		2.2 ms		
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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 230 mm width 160 mm depth 282 mm		3 A		
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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 230 mm width 160 mm depth 282 mm	Installation/ mounting/ dimensions			
fastening methodscrew fixingheight230 mmwidth160 mmdepth282 mm				
height 230 mm width 160 mm depth 282 mm	fastening method			
width 160 mm depth 282 mm				
depth 282 mm				
·				
	·			

• forwards	10 mm	
• backwards	0 mm	
• upwards	100 mm	
downwards	75 mm	
at the side	5 mm	
weight without packaging	7.3 kg	
Connections/ Terminals		
type of electrical connection		
for main current circuit	busbar connection	
• for control circuit	spring-loaded terminals	
width of connection bar maximum	35 mm; with connection cover 3RT1966-4EA1 maximum length 45 mm	
type of connectable conductor cross-sections		
 for main contacts for box terminal using the front clamping point solid 	95 300 mm²	
 for main contacts for box terminal using the front clamping point finely stranded with core end processing 	70 240 mm²	
 for main contacts for box terminal using the front clamping point finely stranded without core end processing 	70 240 mm²	
 for main contacts for box terminal using the front clamping point stranded 	95 300 mm²	
 for main contacts for box terminal using the back clamping point solid 	120 240 mm²	
 for AWG cables for main contacts for box terminal using the back clamping point 	250 500 kcmil	
 for main contacts for box terminal using both clamping points solid 	min. 2x 70 mm², max. 2x 240 mm²	
 for main contacts for box terminal using both clamping points finely stranded with core end processing 	min. 2x 50 mm², max. 2x 185 mm²	
 for main contacts for box terminal using both clamping points finely stranded without core end processing 	min. 2x 50 mm², max. 2x 185 mm²	
 for main contacts for box terminal using both clamping points stranded 	min. 2x 70 mm², max. 2x 240 mm²	
 for main contacts for box terminal using the back clamping point finely stranded with core end processing 	120 185 mm²	
 for main contacts for box terminal using the back clamping point finely stranded without core end processing 	120 185 mm ²	
 for main contacts for box terminal using the back clamping point stranded 	120 240 mm²	
type of connectable conductor cross-sections		
 for AWG cables for main current circuit solid 	2/0 500 kcmil	
 for DIN cable lug for main contacts stranded 	50 240 mm²	
for DIN cable lug for main contacts finely stranded	70 240 mm²	
type of connectable conductor cross-sections		
for control circuit solid	2x (0.25 1.5 mm²)	
for control circuit finely stranded with core end processing	2x (0.25 1.5 mm²)	
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	1 000 m	
tightening torque		
for main contacts with screw-type terminals	14 24 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	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 Manual	
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)		
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 L, max. 1600 A; Iq = 30 kA		
 — usable for High Faults up to 575/600 V according to UL 	Type: Class L, max. 1200 A; Iq = 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		
Safety related data			
protection class IP on the front according to IEC 60529	IP00; IP20 with cover		
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with cover		
ATEX			
certificate of suitability			
• ATEX	Yes		
• IECEx	Yes		
• UKEX	Yes		
hardware fault tolerance according to IEC 61508 relating to ATEX	0		
PFDavg with low demand rate according to IEC 61508 relating to ATEX	0.09		
PFHD with high demand rate according to EN 62061 relating to ATEX	9E-6 1/h		
Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX	SIL1		
T1 value for proof test interval or service life according to IEC 61508 relating to ATEX	3 a		
Certificates/ approvals			
Ganaral Product Approval		For use in hazard-	

General Product Approval

For use in hazardous locations





Confirmation







For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping



Explosion Protection Certificate





Type Test Certificates/Test Report



Marine / Shipping

other





Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

Information- and Downloadcenter (Catalogs, Brochures,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RW5077-2AB14

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5077-2AB14

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5077-2AB14

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5077-2AB14&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

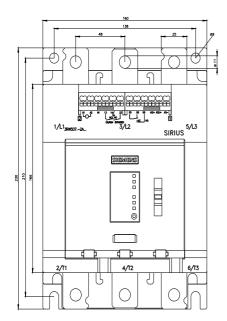
https://support.industry.siemens.com/cs/ww/en/ps/3RW5077-2AB14/char

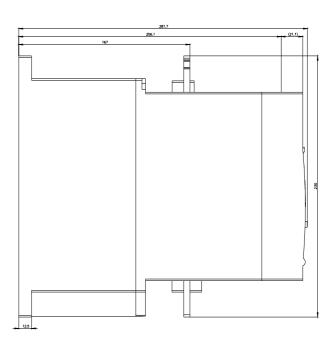
Characteristic: Installation altitude

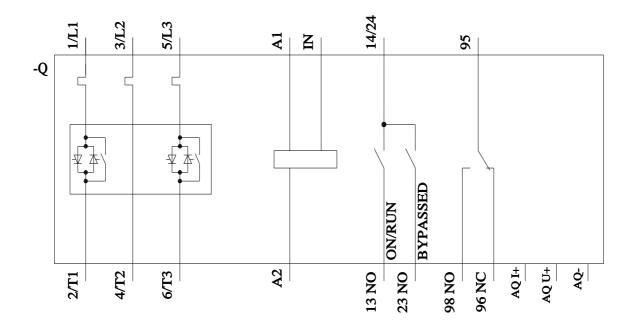
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5077-2AB14&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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