SIEMENS

Data sheet 3RW5077-2AB04

SIRIUS



SIRIUS soft starter 200-480 V 570 A, 24 V AC/DC Spring-loaded terminals Analog output



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, lq = 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	
Seneral 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	
buffering time in the event of power failure		

for made assessed 1 - 9	400	
for main current circuit for control size it.	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 1 600 V	
blocking voltage of the thyristor maximum service factor		
surge voltage resistance rated value	1 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	
utilization category according to IEC 60947-4-2	AC-53a	
reference code according to IEC 81346-2	Q	
Substance Prohibitance (Date)	09/23/2019	
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5	
	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 1,6,7,8,9,14,15,16,17,17,18,18- Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"™) covering any of its individual anti- and syn-isomers or any combination thereof Dicyclohexyl phthalate (DCHP) - 84-61-7	
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; Electronic motor overload protection	
evaluation of thermistor motor protection	No	
• auto-RESET	Yes	
• manual RESET	Yes	
remote reset communication function	Yes; By turning off the control supply voltage	
communication function operating measured value display.	Yes Yes; Only in conjunction with special accessories	
 operating measured value display error logbook 	Yes; Only in conjunction with special accessories Yes; Only in conjunction with special accessories	
via software parameterizable	No	
via software parameterizable via software configurable	Yes	
PROFlenergy	Yes; in connection with the PROFINET Standard communication module	
voltage ramp	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	
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
 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
minimum load [%]	15 %; Relative to smallest settable le
power loss [W] for rated value of the current at AC	
at 40 °C after startup	73 W
at 50 °C after startup	57 W
at 60 °C after startup	47 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup	7 019 W
at 50 °C during startup	5 801 W
at 60 °C during startup	5 048 W
type of the motor protection	Electronic, tripping in the event of thermal overload of the motor
Control circuit/ Control	3
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
• 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	10 %
frequency	
control supply voltage at DC	24.1/
• 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	490 mA
inrush current by closing the bypass contacts maximum	7.6 A
inrush current peak at application of control supply voltage	3.3 A
maximum	
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)
digital output version	
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
nstallation/ 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
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	7.3 kg
Connections/ Terminals	7.0 kg
type of electrical connection	hugher 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
 using the front clamping point finely stranded with core 	70 240 mm²
end processingusing the front clamping point finely stranded without core	70 240 mm²
end processing	0F 200 mm²
using the front clamping point stranded	95 300 mm ²
using the back clamping point solid	120 240 mm²
r box terminal using the back clamping point	250 500 kcmil
 using both clamping points solid 	min. 2x 70 mm², max. 2x 240 mm²
 using both clamping points finely stranded with core end processing 	min. 2x 50 mm², max. 2x 185 mm²
 using both clamping points finely stranded without core end processing 	min. 2x 50 mm², max. 2x 185 mm²
 using both clamping points stranded 	min. 2x 70 mm², max. 2x 240 mm²
 using the back clamping point finely stranded with core end processing 	120 185 mm²
 using the back clamping point finely stranded without core end processing 	120 185 mm²
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 auxiliary and control contacts with screw-type	7 10.3 lbf·in
terminals Ambient conditions	
	5 000 million as of 1000 million Manual
installation altitude at height above sea level maximum	5 000 m; derating as of 1000 m, see Manual
ambient temperature	25 LSO °C: Places absorbe derating at temporatures of 40 °C or above
during operation	-25 +60 °C; Please observe derating at temperatures of 40 °C or above
during storage and transport	-40 +80 °C
environmental category	21/6 (no inc formation only accopianal condensation) 262 (no cell mich) 262
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)
Environmental footprint	
Siemens Eco Profile (SEP)	Siemens EcoTech
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; 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
Electrical Safety	
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	
Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX	SIL1
PFHD with high demand rate according to IEC 61508 relating to ATEX	9E-6 1/h
PFDavg with low demand rate according to IEC 61508 relating to ATEX	0.09
hardware fault tolerance according to IEC 61508 relating to ATEX	0
T1 value for proof test interval or service life according to IEC 61508 relating to ATEX	3 a
certificate of suitability	
• ATEX	Yes
• IECEX	Yes
• UKEX	Yes
Approvals Certificates	
General Product Approval	

General Product Approval









Confirmation



General Product Approval	V For use in hazardous locations	Test Certificates
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<u>KC</u>





Miscellaneous

Type Test Certificates/Test Report

Marine / Shipping other







Confirmation



Environment





Environmental Confirmations

Further information

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=3RW5077-2AB04

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5077-2AB04

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5077-2AB04

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5077-2AB04&lang=en

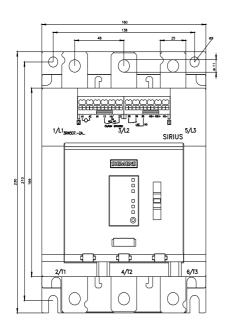
Characteristic: Tripping characteristics, I2t, Let-through current

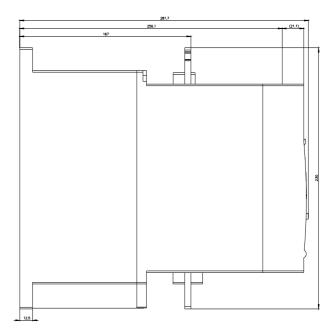
https://support.industry.siemens.com/cs/ww/en/ps/3RW5077-2AB04/char

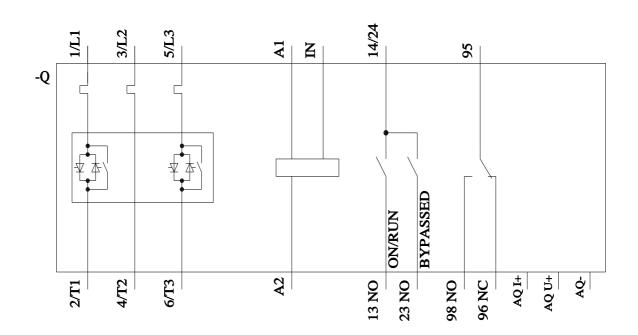
Characteristic: Installation altitude

Simulation Tool for Soft Starters (STS)

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







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