SIEMENS

Data sheet

3RW5056-6TB15



SIRIUS soft starter 200-600 V 171 A, 110-250 V AC Screw terminals Thermistor input

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product brand name	SIRIUS
product brand name	Hybrid switching devices
product designation	Soft starter
	3RW50
product type designation manufacturer's article number	5111150
of standard HMI module usable	3RW5980-0HS01
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 	<u>3VA2220-7MN32-0AA0: Type of assignment 1, lq = 20 kA</u>
 of circuit breaker usable at 500 V 	<u>3VA2220-7MN32-0AA0; Type of assignment 1, Iq = 20 kA</u>
 of the gG fuse usable up to 690 V 	<u>3NA3244-6; Type of coordination 1, Iq = 65 kA</u>
 of full range R fuse link for semiconductor protection usable up to 690 V 	<u>3NE1 230-0: Type of coordination 2, Iq = 65 kA</u>
 of back-up R fuse link for semiconductor protection usable up to 690 V 	<u>3NE3 335: Type of coordination 2, Iq = 65 kA</u>
 of line contactor usable up to 480 V 	<u>3RT1056</u>
 of line contactor usable up to 690 V 	<u>3RT1064</u>
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	

• 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	1 800 V
service factor	1
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) 	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
• 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
 voltage ramp 	Yes
torque control	No
analog output	No
Power Electronics	
operational current	
 at 40 °C rated value 	171 A
• at 50 °C rated value	153 A
at 60 °C rated value	141 A
operating voltage	
rated value	200 600 V
relative negative tolerance of the operating voltage	-15 %
relative positive tolerance of the operating voltage	10 %
operating power for 3-phase motors	45 100
at 230 V at 40 °C rated value	45 kW
• at 400 V at 40 °C rated value	90 kW
at 500 V at 40 °C rated value	110 kW
Operating frequency 1 rated value	50 Hz 60 Hz
Operating frequency 2 rated value relative negative tolerance of the operating frequency	-10 %
relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency	10 %
adjustable motor current	
at rotary coding switch on switch position 1	81 A
 at rotary coding switch on switch position 1 at rotary coding switch on switch position 2 	87 A
 at rotary coding switch on switch position 2 at rotary coding switch on switch position 3 	93 A
 at rotary coding switch on switch position 3 at rotary coding switch on switch position 4 	99 A
 at rotary coding switch on switch position 4 at rotary coding switch on switch position 5 	105 A
 at rotary coding switch on switch position 5 at rotary coding switch on switch position 6 	105 A 111 A
 at rotary coding switch on switch position 6 at rotary coding switch on switch position 7 	117 A
at rotary county switch on switch position /	

 at rotary coding switch on switch position 8 	123 A
 at rotary coding switch on switch position 9 	129 A
 at rotary coding switch on switch position 10 	135 A
 at rotary coding switch on switch position 11 	141 A
 at rotary coding switch on switch position 12 	147 A
 at rotary coding switch on switch position 13 	153 A
 at rotary coding switch on switch position 14 	159 A
 at rotary coding switch on switch position 15 	165 A
 at rotary coding switch on switch position 16 	171 A
• minimum	81 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	29 W
	23 W
• at 50 °C after startup	
at 60 °C after startup	20 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup	1 751 W
• at 50 °C during startup	1 478 W
at 60 °C during startup	1 308 W
type of the motor protection	Electronic, tripping in the event of thermal overload of the motor
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	80 mA
inrush current by closing the bypass contacts maximum	2.5 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	
	1
number of digital inputs	1
number of digital outputs	3
not parameterizable	2 2 corrective energy contracts (NO) (1 changes you contract (CO)
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	198 mm
width	120 mm

required spacing with side by-side mounting 10 mm • loakwards 10 mm • backwards 100 mm • upwards 100 mm • downwards 5 mm • for main current circuit busbar connection • for main current circuit 50 m • with conductor cross-section = 0.5 mm ³ maximum 50 m • with conductor cross-section = 2.5 mm ³ maximum 50 m • with conductor cross-sections 16 120 mm ³ • for main contacts for box terminal using the font 16 120 mm ³ • for main contacts for box terminal using the font 16 120 mm ³ • for main contacts for box terminal using the font 16 120 mm ³ • for main contacts for box terminal using the font 16 120 mm ³ • for main contacts for box terminal using the font 16 120 mm ³ • for main contacts for box terminal using the back 16 120 mm ³ • for main contacts for box terminal using the back 16 120 mm ³ • for main contacts for box terminal using the back 16 120 mm ³ • for main contacts for box term	depth	249 mm
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	 for control circuit finely stranded with core end processing 	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
wire length	 for AWG cables for control circuit solid 	1x (20 12), 2x (20 14)
	wire length	
• between soft starter and motor maximum 800 m	 between soft starter and motor maximum 	800 m
at the digital inputs at AC maximum 1 000 m	 at the digital inputs at AC maximum 	1 000 m
tightening torque	tightening torque	
• for main contacts with screw-type terminals 10 14 N·m	 for main contacts with screw-type terminals 	10 14 N·m
• for auxiliary and control contacts with screw-type 0.8 1.2 N·m		0.8 1.2 N·m
tightening torque [lbf·in]	tightening torque [lbf·in]	
• for main contacts with screw-type terminals 89 124 lbf-in	 for main contacts with screw-type terminals 	89 124 lbf in
• for auxiliary and control contacts with screw-type 7 10.3 lbf in terminals		7 10.3 lbf·in
Ambient conditions	mbient conditions	
installation altitude at height above sea level maximum 5 000 m; derating as of 1000 m, see Manual	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
IL/CSA ratings	
manufacturer's article number	
 of circuit breaker usable for Standard Faults at 460/480 V according to UL 	Siemens type: 3VA5225, max. 250 A; lq = 10 kA
— usable for High Faults at 460/480 V according to UL	Siemens type: 3VA52, max. 250 A; lq max = 65 kA
of the fuse	
— usable for Standard Faults up to 575/600 V according to UL	Type: Class RK5 / K5, max. 400 A; lq = 10 kA
— usable for High Faults up to 575/600 V according to UL	Type: Class J, max. 350 A; lq = 100 kA
operating power [hp] for 3-phase motors	
• at 200/208 V at 50 °C rated value	50 hp
 at 220/230 V at 50 °C rated value 	50 hp
• at 460/480 V at 50 °C rated value	100 hp
• at 575/600 V at 50 °C rated value	150 hp
afety 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
TEX	
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	
General Product Approval	For use in hazard- ous locations
Confirmation CSA	
For use in hazardous locations Declaration of	Conformity Test Certificates Marine / Shipping



Explosion Protection Certificate





Type Test Certificates/Test Report



Marine / Shipping





Confirmation

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=3RW5056-6TB15

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5056-6TB15

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

 $\underline{https://support.industry.siemens.com/cs/ww/en/ps/3RW5056-6TB15}$

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5056-6TB15&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

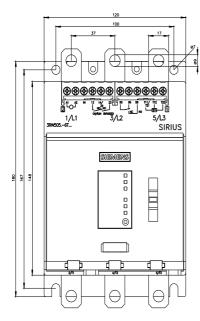
https://support.industry.siemens.com/cs/ww/en/ps/3RW5056-6TB15/char

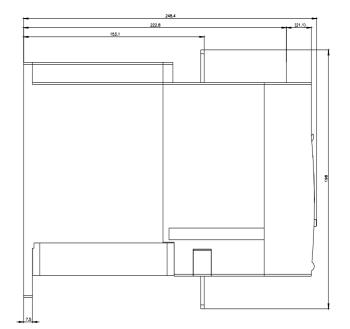
Characteristic: Installation altitude

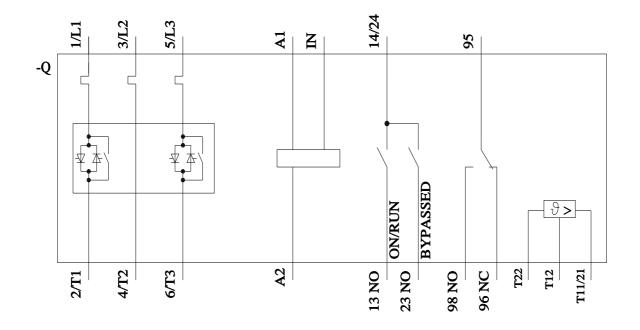
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5056-6TB15&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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