SIEMENS

Data sheet

3RW5076-6TB15



SIRIUS soft starter 200-600 V 470 A, 110-250 V AC Screw terminals Thermistor input

Figure	

product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW50
manufacturer's article number	
 of standard HMI module usable 	<u>3RW5980-0HS01</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 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 	<u>3NE1 436-2; Type of coordination 2, Iq = 65 kA</u>
 of back-up R fuse link for semiconductor protection usable up to 690 V 	<u>3NE3 340-8; Type of coordination 2, Iq = 65 kA</u>
 of line contactor usable up to 480 V 	<u>3RT1076</u>
 of line contactor usable up to 690 V 	<u>3RT1076</u>
Seneral technical data	
starting voltage [%]	30 100 %
stopping voltage [%]	50 50 %
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 %
accuracy class acc. to IEC 61557-12	5 %
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	2

trip class	CLASS 10A / 10E (preset) / 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	1 600 V
service factor	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
reference code acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	23.09.2019 00:00:00
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
manual device protection 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	470 A
• at 50 °C rated value	416 A
• at 60 °C rated value	380 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	
• at 230 V at 40 °C rated value	132 kW
• at 400 V at 40 °C rated value	250 kW
• at 500 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 	200 A
 at rotary coding switch on switch position 2 	218 A

 at rotary coding switch on switch position 3 	236 A
 at rotary coding switch on switch position 4 	254 A
 at rotary coding switch on switch position 5 	272 A
 at rotary coding switch on switch position 6 	290 A
 at rotary coding switch on switch position 7 	308 A
 at rotary coding switch on switch position 8 	326 A
 at rotary coding switch on switch position 9 	344 A
 at rotary coding switch on switch position 10 	362 A
 at rotary coding switch on switch position 11 	380 A
 at rotary coding switch on switch position 12 	398 A
 at rotary coding switch on switch position 13 	416 A
 at rotary coding switch on switch position 14 	434 A
 at rotary coding switch on switch position 15 	452 A
 at rotary coding switch on switch position 16 	470 A
• minimum	200 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	56 W
• at 50 °C after startup	44 W
• at 60 °C after startup	37 W
power loss [W] at AC at current limitation 350 %	
 at 40 °C during startup 	5 344 W
• at 50 °C during startup	4 438 W
● at 60 °C during startup	3 876 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	-10 %
voltage frequency 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	105 mA
locked-rotor current at close of bypass contact	2.2 A
inrush current peak at application of control supply voltage	12.2 A
duration of inrush current peak at application of control	2.2 ms
supply voltage	
design of the overvoltage protection design of short-circuit protection for control circuit	Varistor 4 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature
design of short-circuit protection for control circuit	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	1; Type A PTC or Klixon / Thermoclick
number of digital outputs	3
not parameterizable	2
digital output version	2 normally-open contacts (NO) / 1 changeover contact (CO)

number of analog outputs switching capacity current of the relay outputs	0
 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	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	
type of electrical connection	
 for main current circuit 	busbar connection
for control circuit	screw-type terminals
width of connection bar maximum	45 mm
wire length for thermistor connection	
 with conductor cross-section = 0.5 mm² maximum 	50 m
 with conductor cross-section = 1.5 mm² maximum 	150 m
• with conductor cross-section = 2.5 mm ² maximum	250 m
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
 at AWG cables for main contacts for box terminal using the front clamping point 	3/0 600 kcmil
 for main contacts for box terminal using the back clamping point solid 	120 240 mm²
 at 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 mm²
for main contacts for box terminal using the back clamping point stranded type of connectable conductor cross-sections	120 240 mm²

at AWG cables for main current circuit solid	2/0 500 kcmil
for DIN cable lug for main contacts stranded	50 240 mm ²
for DIN cable lug for main contacts finely stranded	70 240 mm²
type of connectable conductor cross-sections	
for control circuit solid	1x (0.5 4.0 mm ²), 2x (0.5 2.5 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 	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 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 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 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 L, max. 1600 A; lq = 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 	150 hp
• at 460/480 V at 50 °C rated value	350 hp
• at 575/600 V at 50 °C rated value	450 hp
Safety related data	
protection class IP on the front acc. to IEC 60529	IP00; IP20 with cover
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front with cover
ATEX	
certificate of suitability	
• ATEX	Yes
• IECEx	Yes
hardware fault tolerance acc. to IEC 61508 relating to	0
ATEX	

PFDavg with low de relating to ATEX	emand rate acc. to IEC	61508	0.09			
PFHD with high der to ATEX	mand rate acc. to EN 62	2061 relating	0.000009	1/h		
Safety Integrity Lev to ATEX	vel (SIL) acc. to IEC 615	08 relating	SIL1			
T1 value for proof t IEC 61508 relating t	est interval or service I to ATEX	ife acc. to	3 у			
Certificates/ approva	ls					
General Product A	pproval				For use in hazardo	us locations
(SPE		<u>ل</u>		EAC	(Ex)	

Declaration of Cor	nformity	Test Certificates	other
CE	<u>Miscellaneous</u>	Type Test Certific- ates/Test Report	Confirmation

Turnth on information

EG-Konf.

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=3RW5076-6TB15

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5076-6TB15

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5076-6TB15

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <u>http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5076-6TB15&lang=en</u>

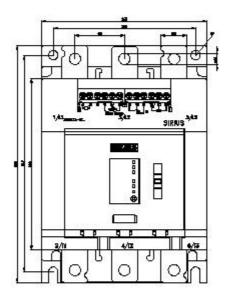
Characteristic: Tripping characteristics, I²t, Let-through current

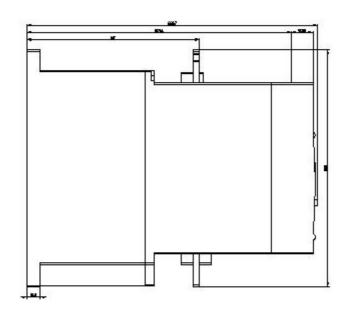
https://support.industry.siemens.com/cs/ww/en/ps/3RW5076-6TB15/char

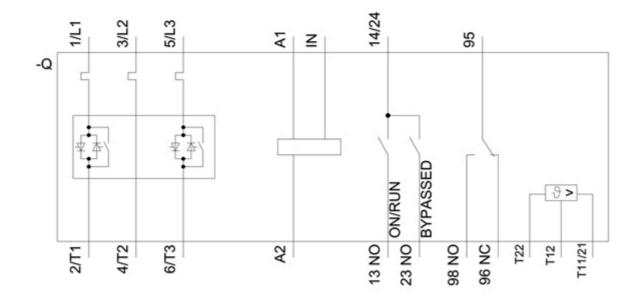
Characteristic: Installation altitude

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5076-6TB15&objecttype=14&gridview=view1 Simulation Tool for Soft Starters (STS)

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







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