SIEMENS

Data sheet

3RW5076-6AB04



SIRIUS soft starter 200-480 V 470 A, 24 V AC/DC Screw terminals Analog output

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 	<u>3VA2580-6HN32-0AA0; Type of assignment 1, Iq = 65 kA</u>
 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>
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
buffering time in the event of power failure	

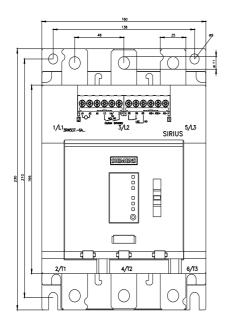
 for main current circuit 	100 ms				
for main current circuit for control circuit					
insulation voltage rated value	_ 100 ms 600 V				
degree of pollution					
impulse voltage rated value	3, acc. to IEC 60947-4-2 6 kV				
blocking voltage of the thyristor maximum	1 600 V				
service factor	1 600 V				
surge voltage resistance rated value					
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	Yes; By turning off the control supply voltage				
 communication function operating measured value display 	Yes 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	Yes; 4 20 mA (default) / 0 10 V (parameterizable with High Feature HMI)				
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	200 480 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	132 kW				
• at 400 V at 40 °C rated value	250 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				

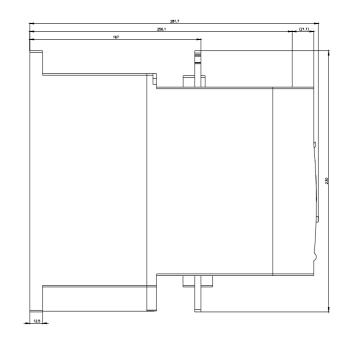
 at rotary coding switch on switch position 3 	236 A
 at rotary coding switch on switch position 4 	254 A
 at rotary coding switch on switch position 5 	272 A
 at rotary coding switch on switch position 6 	290 A
 at rotary coding switch on switch position 7 	308 A
 at rotary coding switch on switch position 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 12 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/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	
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	160 mA
inrush current by closing the bypass contacts maximum	490 mA
inrush current peak at application of control supply voltage maximum	490 mA
	490 mA 7.6 A
maximum duration of inrush current peak at application of control supply	490 mA 7.6 A 3.3 A
duration of inrush current peak at application of control supply voltage	490 mA 7.6 A 3.3 A 12.1 ms
maximum duration of inrush current peak at application of control supply voltage design of the overvoltage protection	 490 mA 7.6 A 3.3 A 12.1 ms Varistor 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
maximum duration of inrush current peak at application of control supply voltage design of the overvoltage protection design of short-circuit protection for control circuit Inputs/ Outputs	 490 mA 7.6 A 3.3 A 12.1 ms Varistor 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
maximum duration of inrush current peak at application of control supply voltage design of the overvoltage protection design of short-circuit protection for control circuit	490 mA 7.6 A 3.3 A 12.1 ms Varistor 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

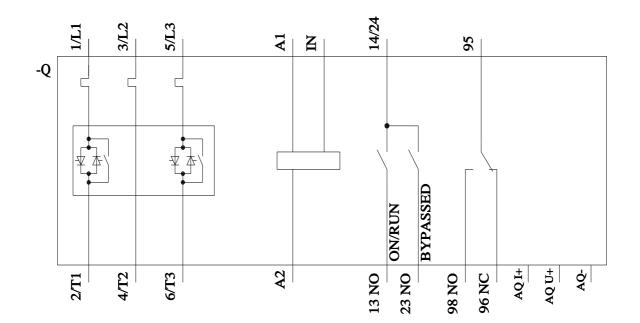
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digital output version	2 normally-open contacts (NO) / 1 changeover contact (CO)		
number of analog outputs	1		
switching capacity current of the relay outputs			
 at AC-15 at 250 V rated value 	3 A		
• at DC-13 at 24 V rated value	1 A		
nstallation/ 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			
type of electrical connection			
for main current circuit	busbar connection		
for control circuit	screw-type 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 end processing	70 240 mm²		
 using the front clamping point finely stranded without core end processing 	70 240 mm²		
 using the front clamping point stranded 	95 300 mm²		
 using the back clamping point solid 	120 240 mm ²		
 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 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 mm²), 2x (0.5 2.5 mm²)		
 for control circuit finely stranded with core end processing 	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)		
 for 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		

5 000 m; derating as of 1000 m, see Manual			
-25 +60 °C; Please observe derating at temperatures of 40 °C or above			
-40 +80 °C			
3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6			
1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4			
2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)			
Siemens EcoTech			
acc. to IEC 60947-4-2: Class A			
Yes			
Type: Class L, max. 1600 A; lq = 30 kA			
Type: Class L, max. 1200 A; lq = 100 kA			
150 hp			
150 hp			
350 hp			
ID00: ID20 with cover			
IP00; IP20 with cover			
finger-safe, for vertical contact from the front with cover			
SIL1			
9E-6 1/h			
0.09			
0			
3 a			
Yes			
Yes			
Yes			

EAC	<u>KC</u>	IECEX	ATEX ATEX	<u>Miscellaneous</u>	<u>Type Test Certific-</u> ates/Test Report		
Marine / Shipping			other	Environment			
ABS	Lloyds Register us	PRS	<u>Confirmation</u>	Siemens EcoTech	EPD		
Environment							
Further information							
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	Characteristic: Tripping characteristics, I ² t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RW5076-6AB04/char						
Characteristic: Installation altitude http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5076-6AB04&objecttype=14&gridview=view1							
Simulation Tool for Soft Starters (STS) https://support.industry.siemens.com/cs/ww/en/view/101494917							







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