SIEMENS

Data sheet

3RW5072-2TB05



SIRIUS soft starter 200-600 V 210 A, 24 V AC/DC Spring-loaded terminals Thermistor input

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product brand name	SIRIUS
product brand hane	Hybrid switching devices
product designation	Soft starter
product designation	3RW50
manufacturer's article number	
of standard HMI module usable	2014/090 04/201
	<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 	<u>3VA2440-7MN32-0AA0; Type of assignment 1, Iq = 65 kA</u>
 of circuit breaker usable at 500 V 	<u>3VA2440-7MN32-0AA0; Type of assignment 1, Iq = 65 kA</u>
 of the gG fuse usable up to 690 V 	2x3NA3354-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	<u>3NE1 230-2; Type of coordination 2, Iq = 65 kA</u>
 of back-up R fuse link for semiconductor protection usable up to 690 V 	<u>3NE3 333: Type of coordination 2, Iq = 65 kA</u>
 of line contactor usable up to 480 V 	<u>3RT1064</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 main current circuit	100 ms
	100 110

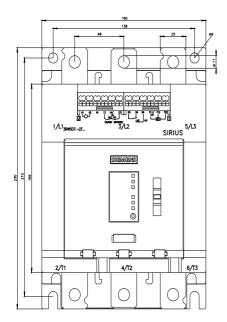
for control circuit	100 ms
insulation voltage rated value	600 V
degree of pollution	3, acc. to IEC 60947-4-2
impulse voltage rated value	6 kV
blocking voltage of the thyristor maximum	1 600 V
service factor	1
surge voltage resistance rated value	6 kV
maximum permissible voltage for protective separation	
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 	210 A
• at 50 °C rated value	186 A
• at 60 °C rated value	170 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	55 kW
• at 400 V at 40 °C rated value	110 kW
• at 500 V at 40 °C rated value	132 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	00.4
 at rotary coding switch on switch position 1 at rotary coding switch on switch position 2 	90 A
 at rotary coding switch on switch position 2 	98 A
at rotary coding switch on switch position 3	106 A
at rotary coding switch on switch position 4	114 A
at rotary coding switch on switch position 5	122 A
• at rotary coding switch on switch position 6	130 A
 at rotary coding switch on switch position 7 	138 A

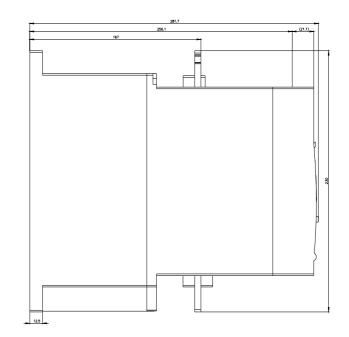
 at rotary coding switch on switch position 8 	146 A
 at rotary coding switch on switch position 9 	154 A
 at rotary coding switch on switch position 10 	162 A
 at rotary coding switch on switch position 11 	170 A
 at rotary coding switch on switch position 12 	178 A
 at rotary coding switch on switch position 13 	186 A
 at rotary coding switch on switch position 14 	194 A
 at rotary coding switch on switch position 15 	202 A
 at rotary coding switch on switch position 16 	210 A
• minimum	90 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	16 W
• at 50 °C after startup	13 W
• at 60 °C after startup	11 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup	2 237 W
● at 50 °C during startup	1 867 W
• at 60 °C during startup	1 637 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	-20 %
AC at 50 Hz	
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 frequency	10 %
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	490 mA
inrush current by closing the bypass contacts maximum	7.6 A
inrush current peak at application of control supply voltage maximum	3.3 A
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	scope of supply
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)
number of analog outputs	
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	1A

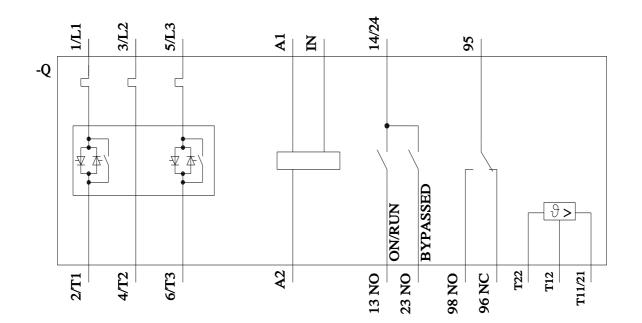
nstallation/ mounting/ dimensions	
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
fastening method	screw fixing
height	230 mm
width	
depth	282 mm
required spacing with side-by-side mounting	
• forwards	10 mm
backwards	0 mm
• upwards	100 mm
• downwards	75 mm
• at the side	5 mm
weight without packaging	7.3 kg
onnections/ 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
wire length for thermistor connection	
• with conductor cross-section = 0.5 mm ² maximum	50 m
• with conductor cross-section = 1.5 mm ² 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 mm ²
for main contacts for box terminal using the front clamping point stranded for main contacts for how terminal using the back	95 300 mm ²
 for main contacts for box terminal using the back clamping point solid for AWG cables for main contacts for box terminal using 	120 240 mm² 250 500 kcmil
 for Awa cables to main contacts for box terminal using the back clamping point for main contacts for box terminal using both clamping 	min. 2x 70 mm², max. 2x 240 mm²
 for main contacts for box terminal using both clamping for main contacts for box terminal using both clamping 	min. 2x 50 mm², max. 2x 185 mm²
 points finely stranded with core end processing for main contacts for box terminal using both clamping 	min. 2x 50 mm², max. 2x 185 mm²
points finely stranded without core end processingfor main contacts for box terminal using both clamping	min. 2x 70 mm², max. 2x 240 mm²
points strandedfor main contacts for box terminal using the back	120 185 mm²
clamping point finely stranded with core end processingfor main contacts for box terminal using the back	120 185 mm²
 clamping point finely stranded without core end processing for main contacts for box terminal using the back clamping point stranded 	120 240 mm²
clamping point stranded 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 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 mm ²)
for AWG cables for control circuit solid	2x (0.20 10 mm)
 for AWG cables for control circuit finely stranded with core end processing 	2x (24 16) 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	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), 3C (sand must not get into the devices), 3M6	C3 (no salt mist), 3S2
during storage according to IEC 60721	1K6 (only occasional condensation), 1C2 (no salt mist), 1 inside the devices), 1M4	S2 (sand must not get
 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 circuit breaker		
usable for High Faults at 460/480 V according to UL	Siemens type: 3VA54, max. 600 A; Iq max = 65 kA	
• of the fuse		
— usable for Standard Faults up to 575/600 V according to UL	Type: Class L, max. 700 A; lq = 10 kA	
— usable for High Faults up to 575/600 V according to UL	Type: Class L, max. 700 A; lq = 100 kA	
operating power [hp] for 3-phase motors		
 at 200/208 V at 50 °C rated value 	60 hp	
 at 220/230 V at 50 °C rated value 	60 hp	
• at 460/480 V at 50 °C rated value	150 hp	
• at 575/600 V at 50 °C rated value	150 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	3 a	
IEC 61508 relating to ATEX		
IEC 61508 relating to ATEX Certificates/ approvals		
		For use in hazard-

(SP) Carlor	<u>Confirmation</u>			EHC	IECEX
For use in hazardous	locations	Declaration of Conform	nity	Test Certificates	Marine / Shipping
KEx ATEX	Explosion Protection Certificate	UK CA	CE EG-Konf.	Type Test Certific- ates/Test Report	ABS
Marine / Shipping		other			
Lloyd's Register Lirs	PRS	<u>Confirmation</u>			
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					
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