SIEMENS

Data sheet 3RW5073-2TB05



SIRIUS soft starter 200-600 V 250 A, 24 V AC/DC Spring-loaded terminals Thermistor input

Figure similar

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 	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 	3VA2440-7MN32-0AA0; Type of assignment 1, Iq = 65 kA
 of circuit breaker usable at 500 V 	3VA2440-7MN32-0AA0; Type of assignment 1, Iq = 65 kA
 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 	3NE1 331-0: Type of coordination 2, Iq = 65 kA
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE3 335: Type of coordination 2, Iq = 65 kA
 of line contactor usable up to 480 V 	3RT1065
 of line contactor usable up to 690 V 	<u>3RT1065</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

e for control circuit	100 mg		
• 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	0001/		
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	V.		
• 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	0.00		
• at 40 °C rated value	250 A		
• at 50 °C rated value	220 A		
at 60 °C rated value	200 A		
operating voltage	222 2224		
• 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	75 144		
at 230 V at 40 °C rated value at 400 V at 40 °C rated value	75 kW		
at 400 V at 40 °C rated value	132 kW		
at 500 V at 40 °C rated value	160 kW		
Operating frequency 1 rated value	50 Hz		
Operating frequency 2 rated value	60 Hz		
relative negative telerance of the operating frequency	-10 %		
relative positive tolerance of the operating frequency	10 %		
adiuatable mater current			
adjustable motor current	100 A		
• at rotary coding switch on switch position 1	100 A		
at rotary coding switch on switch position 1at rotary coding switch on switch position 2	110 A		
 at rotary coding switch on switch position 1 at rotary coding switch on switch position 2 at rotary coding switch on switch position 3 	110 A 120 A		
 at rotary coding switch on switch position 1 at rotary coding switch on switch position 2 at rotary coding switch on switch position 3 at rotary coding switch on switch position 4 	110 A 120 A 130 A		
 at rotary coding switch on switch position 1 at rotary coding switch on switch position 2 at rotary coding switch on switch position 3 at rotary coding switch on switch position 4 at rotary coding switch on switch position 5 	110 A 120 A 130 A 140 A		
 at rotary coding switch on switch position 1 at rotary coding switch on switch position 2 at rotary coding switch on switch position 3 at rotary coding switch on switch position 4 	110 A 120 A 130 A		

 at rotary coding switch on switch position 8 	170 A
 at rotary coding switch on switch position 9 	180 A
 at rotary coding switch on switch position 10 	190 A
 at rotary coding switch on switch position 11 	200 A
 at rotary coding switch on switch position 12 	210 A
 at rotary coding switch on switch position 13 	220 A
 at rotary coding switch on switch position 14 	230 A
 at rotary coding switch on switch position 15 	240 A
 at rotary coding switch on switch position 16 	250 A
• minimum	100 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	23 W
• at 50 °C after startup	18 W
at 60 °C after startup	15 W
power loss [W] at AC at current limitation 350 %	
at 40 °C during startup	2 454 W
at 50 °C during startup	2 043 W
at 60 °C during startup	1 786 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 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	
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	0
switching capacity current of the relay outputs	
at AC-15 at 250 V rated value	3 A
 at AC-15 at 250 V rated value at DC-13 at 24 V rated value 	3 A 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	
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 mm² maximum	50 m	
with conductor cross-section = 1.5 mm² maximum	150 m	
with conductor cross-section = 2.5 mm² 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	
 for main contacts for box terminal using the back clamping point solid 	120 240 mm²	
for 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 for main contacts for box terminal using both clamping 	min. 2x 70 mm², max. 2x 240 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 min. 2x 50 mm² max. 2x 185 mm²	
points finely stranded without core end processing • for main contacts for box terminal using both clamping	min. 2x 50 mm², max. 2x 185 mm² min. 2x 70 mm², max. 2x 240 mm²	
points strandedfor main contacts for box terminal using the back	120 185 mm ²	
 clamping point finely stranded with core end processing 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	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 solid 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) 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 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 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), rinside the devices), 1M4	IS2 (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. 800 A; Iq = 18 kA		
 — usable for High Faults up to 575/600 V according to UL 	Type: Class L, max. 800 A; Iq = 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	75 hp		
• at 460/480 V at 50 °C rated value	150 hp		
● at 575/600 V at 50 °C rated value	200 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 IEC 61508 relating to ATEX	3 a		
Certificates/ approvals			
General Product Approval		For use in hazard- ous locations	



Confirmation









For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping



Explosion Protection Certificate





Type Test Certificates/Test Report



Marine / Shipping

other





Confirmation

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=3RW5073-2TB05

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5073-2TB05

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5073-2TB0

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5073-2TB05&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

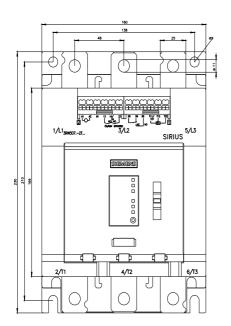
https://support.industry.siemens.com/cs/ww/en/ps/3RW5073-2TB05/char

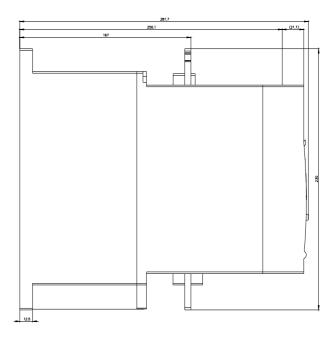
Characteristic: Installation altitude

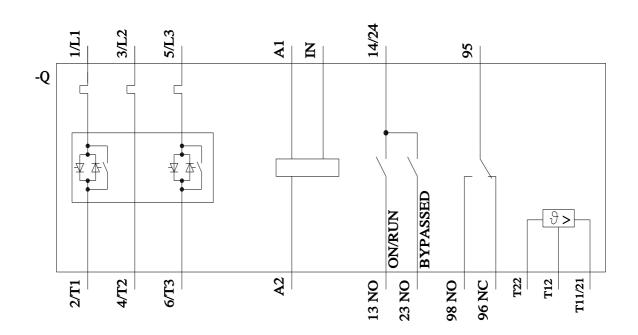
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5073-2TB05&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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