SIEMENS

Data sheet 3RW5073-2AB05

SIRIUS



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

Figure similar

product brand name

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 	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 	<u>3RT1065</u>
 of line contactor usable up to 690 V 	<u>3RT1065</u>
General 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
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	Yes
	Yes; Only in conjunction with special accessories
operating measured value display organizations	Yes; Only in conjunction with special accessories
error logbook via aeftyrara parameterizabla	No
via software parameterizable via software configurable	Yes
via software configurable	
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	250 A
• at 50 °C rated value	220 A
at 60 °C rated value	200 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 	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 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	100 A
 at rotary coding switch on switch position 2 	110 A
, ,	

 at rotary coding switch on switch position 3 	120 A
 at rotary coding switch on switch position 4 	130 A
at rotary coding switch on switch position 5	140 A
 at rotary coding switch on switch position 6 	150 A
at rotary coding switch on switch position 7	160 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	10 70, Telative to simalest settable te
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 at 50 °C during startup	2 043 W
at 60 °C during startup 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	Electronic, tripping in the event of thermal overload of the motor
	AC/DC
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC • at 50 Hz rated value	24 V
	24 V
at 60 Hz rated value relative pagative telegance of the control cumply.	-20 %
relative negative tolerance of the control supply voltage at AC at 50 Hz	-20 /0
relative positive tolerance of the control supply	20 %
voltage at AC at 50 Hz	
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	-10 %
voltage frequency	40.07
relative positive tolerance of the control supply voltage frequency	10 %
control supply voltage	24.1/
at DC rated value relative reporting to large and the control country.	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
locked-rotor current at close of bypass contact 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 inputs for thermistor connection	0
number of digital outputs	3
not parameterizable	2
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
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	spring-loaded terminals
width of connection bar maximum	45 mm
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 	min. 2x 50 mm², max. 2x 185 mm²
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 	min. 2x 50 mm², max. 2x 185 mm² min. 2x 70 mm², max. 2x 240 mm²
 for main contacts for box terminal using both clamping points finely stranded without core end processing for main contacts for box terminal using both 	
processing • for main contacts for box terminal using both clamping points finely stranded without core end processing • for main contacts for box terminal using both clamping points stranded • for main contacts for box terminal using the back clamping point finely stranded with core end	min. 2x 70 mm², max. 2x 240 mm²

clamping point stranded	
type of connectable conductor cross-sections	
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 mm ²
type of connectable conductor cross-sections	70 240 Hilli
for control circuit solid	2x (0.25 1.5 mm²)
for control circuit finely stranded with core end	2x (0.25 1.5 mm²)
processing	ZX (0.20 1.0 mm)
 at AWG cables for control circuit solid 	2x (24 16)
 at AWG cables for control circuit finely stranded with 	2x (24 16)
core end processing	
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	0.8 1.2 N·m
terminals 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	7 10.3 IDI III
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
5 1	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 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 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 ATEX	0
PFDavg with low demand rate acc. to IEC 61508 relating to ATEX	0.09
PFHD with high demand rate acc. to EN 62061 relating to ATEX	0.000009 1/h
Safety Integrity Level (SIL) acc. to IEC 61508 relating to ATEX	SIL1
T1 value for proof test interval or service life acc. to IEC 61508 relating to ATEX	3 y

Certificates/ approvals

General Product Approval

For use in hazardous locations













Declaration of Conformity

Test Certificates

other



Miscellaneous

Type Test Certificates/Test Report

Confirmation

Further information

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=3RW5073-2AB05

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5073-2AB05

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5073-2AB05

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5073-2AB05&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

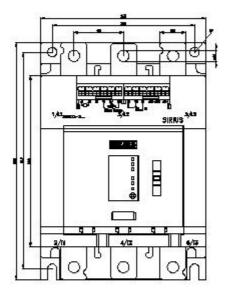
https://support.industry.siemens.com/cs/ww/en/ps/3RW5073-2AB05/char

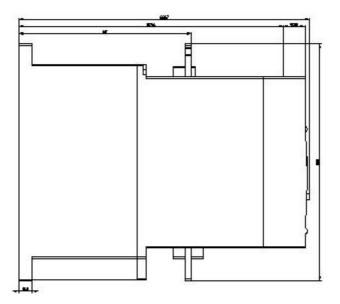
Characteristic: Installation altitude

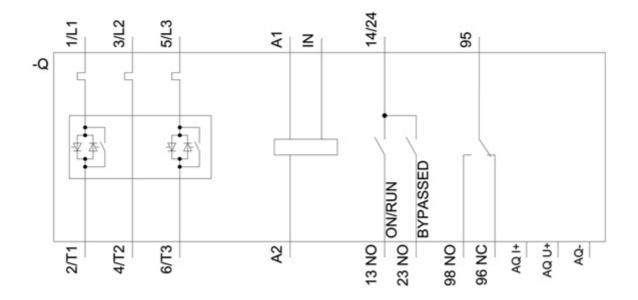
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5073-2AB05&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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