SIEMENS

Data sheet 3RW5074-2AB15

SIRIUS



SIRIUS soft starter 200-600 V 315 A, 110-250 V AC 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 	2x3NA3365-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	3NE1 333-2; 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>3RT1075</u>
 of line contactor usable up to 690 V 	<u>3RT1075</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	20.00.2010 00.00.00
	Yes
• ramp-up (soft starting)	Yes
• ramp-down (soft stop)	
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
 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	Yes; 4 20 mA (default) / 0 10 V (parameterizable with High Feature
	HMI)
Power Electronics	
operational current	
at 40 °C rated value	315 A
at 50 °C rated value	279 A
at 60 °C rated value	255 A
operating voltage	
• rated value	200 600 V
relative negative tolerance of the operating voltage	-15 %
relative negative tolerance of the operating voltage	10 %
operating power for 3-phase motors	10 /0
at 230 V at 40 °C rated value	90 kW
at 400 V at 40 °C rated value at 400 V at 40 °C rated value	
	160 kW
at 500 V at 40 °C rated value Operating frequency 4 rated value	200 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 	135 A
 at rotary coding switch on switch position 2 	147 A

 at rotary coding switch on switch position 3 	159 A
 at rotary coding switch on switch position 4 	171 A
 at rotary coding switch on switch position 5 	183 A
 at rotary coding switch on switch position 6 	195 A
 at rotary coding switch on switch position 7 	207 A
at rotary coding switch on switch position 8	219 A
at rotary coding switch on switch position 9	231 A
at rotary coding switch on switch position 10	243 A
at rotary coding switch on switch position 11	255 A
at rotary coding switch on switch position 12 at rotary coding switch on switch position 12	267 A
at rotary coding switch on switch position 12 at rotary coding switch on switch position 13	279 A
at rotary coding switch on switch position 14	291 A
at rotary coding switch on switch position 14 at rotary coding switch on switch position 15	303 A
	315 A
at rotary coding switch on switch position 16	135 A
• minimum	
minimum load [%]	15 %; Relative to smallest settable le
power loss [W] for rated value of the current at AC	36 W
• at 40 °C after startup	
at 50 °C after startup at 60 °C after startup The	29 W
• at 60 °C after startup	24 W
power loss [W] at AC at current limitation 350 %	2.200.14
• at 40 °C during startup	3 368 W
• at 50 °C during startup	2 805 W
at 60 °C during startup	2 455 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 maximum	2.2 A
inrush current peak at application of control supply voltage maximum	12.2 A
duration of inrush current peak at application of control supply voltage	2.2 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 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 	120 240 mm²
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 mm²
for DIN cable lug for main contacts finely stranded	70 240 mm ²
type of connectable conductor cross-sections	

 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	
 at AWG cables for control circuit solid 	2x (24 16)
at AWG cables for control circuit finely stranded with core and processing.	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	1 000 111
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	0.8 1.2 N·III
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 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
during stars as to IEO 00704	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	435. to 120 555 ft 1 2. 51455 ft
communication module is supported	
PROFINET standard	Yes
• EtherNet/IP	Yes
Modbus RTU	Yes
Modbus TCP	Yes
PROFIBUS	Yes
	Tes
UL/CSA ratings	
manufacturer's article number	
of circuit breaker	0:
 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	Type: Class L, max. 1000 A; Iq = 18 kA
according to UL	1, po. 0.000 E, max. 1000 N, ny 10 NY
— usable for High Faults up to 575/600 V	Type: Class L, max. 1000 A; Iq = 100 kA
according to UL	
operating power [hp] for 3-phase motors	
at 200/208 V at 50 °C rated value	75 hp
 at 220/230 V at 50 °C rated value 	100 hp
• at 460/480 V at 50 °C rated value	100 hp 200 hp
	100 hp
• at 460/480 V at 50 °C rated value	100 hp 200 hp
 at 460/480 V at 50 °C rated value at 575/600 V at 50 °C rated value 	100 hp 200 hp
 at 460/480 V at 50 °C rated value at 575/600 V at 50 °C rated value Safety related data	100 hp 200 hp 250 hp
at 460/480 V at 50 °C rated value at 575/600 V at 50 °C rated value Safety related data protection class IP on the front acc. to IEC 60529	100 hp 200 hp 250 hp IP00; IP20 with cover
at 460/480 V at 50 °C rated value at 575/600 V at 50 °C rated value Safety related data protection class IP on the front acc. to IEC 60529 touch protection on the front acc. to IEC 60529	100 hp 200 hp 250 hp IP00; IP20 with cover
at 460/480 V at 50 °C rated value at 575/600 V at 50 °C rated value Safety related data protection class IP on the front acc. to IEC 60529 touch protection on the front acc. to IEC 60529 ATEX	100 hp 200 hp 250 hp IP00; IP20 with cover
at 460/480 V at 50 °C rated value at 575/600 V at 50 °C rated value Safety related data protection class IP on the front acc. to IEC 60529 touch protection on the front acc. to IEC 60529 ATEX certificate of suitability	100 hp 200 hp 250 hp IP00; IP20 with cover finger-safe, for vertical contact from the front with cover
at 460/480 V at 50 °C rated value at 575/600 V at 50 °C rated value Safety related data protection class IP on the front acc. to IEC 60529 touch protection on the front acc. to IEC 60529 ATEX certificate of suitability ATEX	100 hp 200 hp 250 hp IP00; IP20 with cover finger-safe, for vertical contact from the front with cover

ATEX	
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=3RW5074-2AB15

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5074-2AB15

 ${\bf Service \& Support~(Manuals,~Certificates,~Characteristics,~FAQs,...)}$

https://support.industry.siemens.com/cs/ww/en/ps/3RW5074-2AB15

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5074-2AB15&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

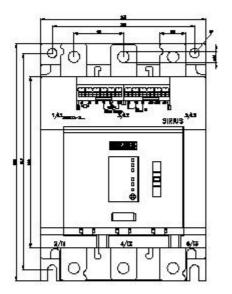
https://support.industry.siemens.com/cs/ww/en/ps/3RW5074-2AB15/char

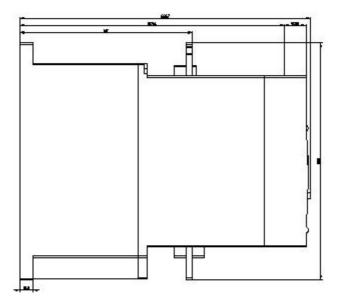
Characteristic: Installation altitude

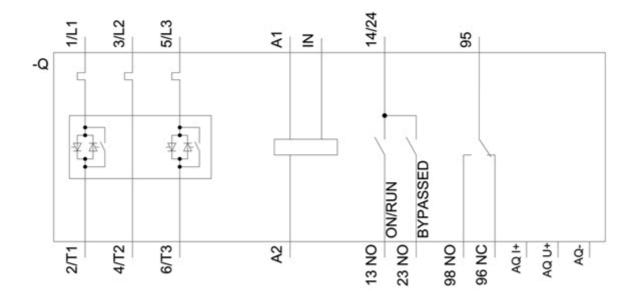
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5074-2AB15&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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