## **SIEMENS**

3RW5074-6TB05 **Data sheet** 



SIRIUS soft starter 200-600 V 315 A, 24 V AC/DC Screw terminals Thermistor

Figure similar

product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW50
manufacturer's article number	Citivo
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
<ul> <li>of circuit breaker usable at 400 V</li> </ul>	3VA2440-7MN32-0AA0; Type of assignment 1, Iq = 65 kA
<ul> <li>of circuit breaker usable at 500 V</li> </ul>	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
<ul> <li>of line contactor usable up to 480 V</li> </ul>	<u>3RT1075</u>
<ul> <li>of line contactor usable up to 690 V</li> </ul>	<u>3RT1075</u>
Seneral 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

• 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			
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			
<ul><li>ramp-up (soft starting)</li></ul>	Yes		
<ul><li>ramp-down (soft stop)</li></ul>	Yes		
Soft Torque	Yes		
<ul> <li>adjustable current limitation</li> </ul>	Yes		
<ul><li>pump ramp down</li></ul>	Yes		
<ul> <li>intrinsic device protection</li> </ul>	Yes		
motor overload protection	Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)		
<ul> <li>evaluation of thermistor motor protection</li> </ul>	Yes; Type A PTC or Klixon / Thermoclick		
• auto-RESET	Yes		
manual RESET	Yes		
• remote reset	Yes; By turning off the control supply voltage		
<ul> <li>communication function</li> </ul>	Yes		
<ul> <li>operating measured value display</li> </ul>	Yes; Only in conjunction with special accessories		
• error logbook	Yes; Only in conjunction with special accessories		
<ul> <li>via software parameterizable</li> </ul>	No		
<ul> <li>via software configurable</li> </ul>	Yes		
<ul> <li>PROFlenergy</li> </ul>	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	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 positive tolerance of the operating voltage	10 %		
operating power for 3-phase motors			
• at 230 V at 40 °C rated value	90 kW		
• at 400 V at 40 °C rated value	160 kW		
• at 500 V at 40 °C 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		
<ul> <li>at rotary coding switch on switch position 2</li> </ul>	147 A		
<ul> <li>at rotary coding switch on switch position 3</li> </ul>	159 A		
<ul> <li>at rotary coding switch on switch position 4</li> </ul>	171 A		
<ul> <li>at rotary coding switch on switch position 5</li> </ul>	183 A		
at rotary coding switch on switch position 6	195 A		
at rotary coding switch on switch position 7	207 A		

<ul> <li>at rotary coding switch on switch position 8</li> </ul>	219 A
<ul> <li>at rotary coding switch on switch position 9</li> </ul>	231 A
<ul> <li>at rotary coding switch on switch position 10</li> </ul>	243 A
<ul> <li>at rotary coding switch on switch position 11</li> </ul>	255 A
<ul> <li>at rotary coding switch on switch position 12</li> </ul>	267 A
<ul> <li>at rotary coding switch on switch position 13</li> </ul>	279 A
<ul> <li>at rotary coding switch on switch position 14</li> </ul>	291 A
<ul> <li>at rotary coding switch on switch position 15</li> </ul>	303 A
at rotary coding switch on switch position 16	315 A
• minimum	135 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	36 W
at 50 °C after startup	29 W
at 60 °C after startup	24 W
power loss [W] at AC at current limitation 350 %	
• 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/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	осоро от оприту
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 DC-13 at 24 V rated value	1 A

estallation/ mounting/ dimensions	''I	
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	screw-type 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	95 300 mm²	
clamping point solid  • for main contacts for box terminal using the front	70 240 mm²	
clamping point finely stranded with core end processing		
<ul> <li>for main contacts for box terminal using the front clamping point finely stranded without core end processing</li> </ul>	70 240 mm²	
<ul> <li>for main contacts for box terminal using the front clamping point stranded</li> </ul>	95 300 mm²	
<ul> <li>for main contacts for box terminal using the back clamping point solid</li> </ul>	120 240 mm²	
<ul> <li>for AWG cables for main contacts for box terminal using the back clamping point</li> </ul>	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     for main contacts for box terminal using both clamping.	min. 2x 50 mm², max. 2x 185 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 clamping.	min. 2x 50 mm², max. 2x 185 mm²	
<ul> <li>for main contacts for box terminal using both clamping points stranded</li> <li>for main contacts for box terminal using the back</li> </ul>	min. 2x 70 mm², max. 2x 240 mm² 120 185 mm²	
clamping point finely stranded with core end processing  • for main contacts for box terminal using the back	120 185 mm <sup>2</sup>	
<ul><li>clamping point finely stranded without core end processing</li><li>for main contacts for box terminal using the back</li></ul>	120 240 mm²	
clamping point stranded		
type of connectable conductor cross-sections	2/0	
for AWG cables for main current circuit solid     for DIN cable lug for main contacts stranded	2/0 500 kcmil	
for DIN cable lug for main contacts stranded     for DIN cable lug for main contacts finely stranded	50 240 mm² 70 240 mm²	
for DIN cable lug for main contacts finely stranded  type of connectable conductor cross-sections	70 240 Hilli	
type of connectable conductor cross-sections  • for control circuit solid	1v (0.5	
	1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²) 1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)	
<ul> <li>for control circuit finely stranded with core end processing</li> <li>for AWG cables for control circuit solid</li> </ul>	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²) 1x (20 12), 2x (20 14)	
wire length		
<ul> <li>between soft starter and motor maximum</li> </ul>	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	
<ul> <li>for auxiliary and control contacts with screw-type</li> </ul>	0.8 1.2 N·m	

tightening torque [lbf·in]			
<ul> <li>for main contacts with screw-type terminals</li> </ul>	124 210 lbf-in		
<ul> <li>for auxiliary and control contacts with screw-type terminals</li> </ul>	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	o ooo iii, aalaanig aa oo iiooo iii, ooo iiiaalaa.		
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), 1S2 (sand must not get inside the devices), 1M4		
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			
<ul> <li>usable for Standard Faults up to 575/600 V according to UL</li> </ul>	Type: Class L, max. 1000 A; Iq = 18 kA		
<ul> <li>usable for High Faults up to 575/600 V according to UL</li> </ul>	Type: Class L, max. 1000 A; Iq = 100 kA		
operating power [hp] for 3-phase motors			
<ul> <li>at 200/208 V at 50 °C rated value</li> </ul>	75 hp		
<ul> <li>at 220/230 V at 50 °C rated value</li> </ul>	100 hp		
<ul> <li>at 460/480 V at 50 °C rated value</li> </ul>	200 hp		
at 575/600 V at 50 °C rated value	250 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







**Declaration of Conformity** 

**Test Certificates** 

Marine / Shipping



**Explosion Protection** Certificate





Type Test Certificates/Test Report



Marine / Shipping

other





Confirmation

Siemens has decided to exit the Russian market (see here).

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=3RW5074-6TB05

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RW5074-6TB05}$ 

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5074-6TB05

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

http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RW5074-6TB05&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

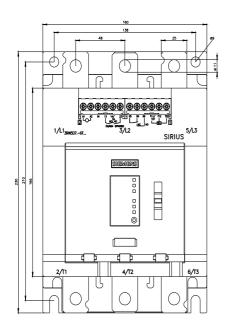
https://support.industry.siemens.com/cs/ww/en/ps/3RW5074-6TB05/char

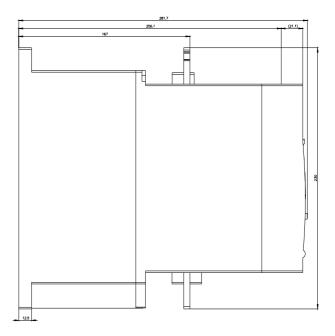
Characteristic: Installation altitude

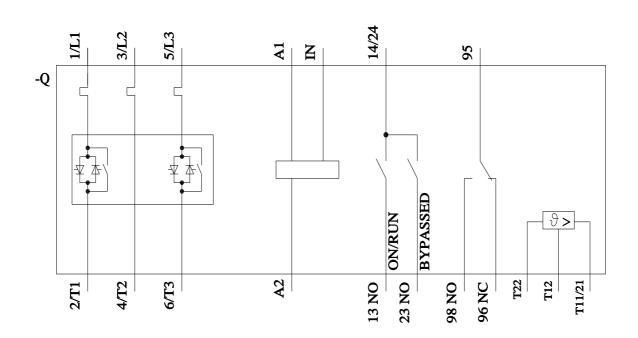
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5074-6TB05&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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