## SIEMENS

## Data sheet

## 3RW5072-2TB04



SIRIUS soft starter 200-480 V 210 A, 24 V AC/DC Spring-loaded terminals Thermistor input

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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	<u>3RW5980-0HS01</u>
<ul> <li>of high feature HMI module usable</li> </ul>	<u>3RW5980-0HF00</u>
<ul> <li>of communication module PROFINET standard usable</li> </ul>	3RW5980-0CS00
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	3RW5980-0CE00
of circuit breaker usable at 400 V	<u>3VA2440-7MN32-0AA0; Type of assignment 1, lg = 65 kA</u>
of circuit breaker usable at 500 V	3VA2440-7MN32-0AA0: Type of assignment 1, Ig = 65 kA
<ul> <li>of the gG fuse usable up to 690 V</li> </ul>	2x3NA3354-6; Type of coordination 1, Iq = 65 kA
<ul> <li>of full range R fuse link for semiconductor protection usable up to 690 V</li> </ul>	3NE1 230-2: Type of coordination 2. Iq = 65 kA
<ul> <li>of back-up R fuse link for semiconductor protection usable up to 690 V</li> </ul>	<u>3NE3 333: Type of coordination 2, Iq = 65 kA</u>
<ul> <li>of line contactor usable up to 480 V</li> </ul>	<u>3RT1064</u>
<ul> <li>of line contactor usable up to 690 V</li> </ul>	3RT1064
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

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	0 KV
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
mainsic device protection     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
<ul> <li>error logbook</li> </ul>	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	200 480 V
relative negative tolerance of the operating voltage	-15 %
relative positive tolerance of the operating voltage	10 %
operating power for 3-phase motors	EE IAN
• at 230 V at 40 °C rated value	55 kW
at 400 V at 40 °C rated value	110 kW
Operating frequency 1 rated value	50 Hz
Operating frequency 2 rated value	60 Hz -10 %
relative negative tolerance of the operating frequency	
relative positive tolerance of the operating frequency adjustable motor current	10 %
at rotary coding switch on switch position 1	90 A
at rotary coding switch on switch position 1	98 A
<ul> <li>at rotary coding switch on switch position 2</li> <li>at rotary coding switch on switch position 3</li> </ul>	96 A 106 A
<ul> <li>at rotary coding switch on switch position 3</li> <li>at rotary coding switch on switch position 4</li> </ul>	114 A
<ul> <li>at rotary coding switch on switch position 4</li> <li>at rotary coding switch on switch position 5</li> </ul>	122 A
<ul> <li>at rotary coding switch on switch position 5</li> <li>at rotary coding switch on switch position 6</li> </ul>	130 A
<ul> <li>at rotary coding switch on switch position 6</li> <li>at rotary coding switch on switch position 7</li> </ul>	138 A
<ul> <li>at rotary coding switch on switch position 8</li> </ul>	146 A

<ul> <li>at rotary coding switch on switch position 9</li> </ul>	154 A
<ul> <li>at rotary coding switch on switch position 10</li> </ul>	162 A
<ul> <li>at rotary coding switch on switch position 11</li> </ul>	170 A
<ul> <li>at rotary coding switch on switch position 12</li> </ul>	178 A
<ul> <li>at rotary coding switch on switch position 13</li> </ul>	186 A
<ul> <li>at rotary coding switch on switch position 14</li> </ul>	194 A
<ul> <li>at rotary coding switch on switch position 15</li> </ul>	202 A
<ul> <li>at rotary coding switch on switch position 16</li> </ul>	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 %	
<ul> <li>at 40 °C during startup</li> </ul>	2 237 W
<ul> <li>at 50 °C during startup</li> </ul>	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	20 %
AC at 50 Hz	-20 %
relative negative tolerance of the control supply voltage at AC at 60 Hz	
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	
<ul> <li>at AC-15 at 250 V rated value</li> </ul>	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	7.0 Kg
type of electrical connection	husher 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	50
• with conductor cross-section = 0.5 mm <sup>2</sup> maximum	50 m
• with conductor cross-section = 1.5 mm <sup>2</sup> maximum	150 m
• with conductor cross-section = 2.5 mm <sup>2</sup> maximum	250 m
<ul> <li>type of connectable conductor cross-sections</li> <li>for main contacts for box terminal using the front clamping point solid</li> </ul>	95 300 mm²
<ul> <li>for main contacts for box terminal using the front clamping point finely stranded with core end processing</li> </ul>	70 240 mm²
<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
• 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	min. $2x 70 \text{ mm}^2$ , max. $2x 240 \text{ mm}^2$
<ul> <li>for main contacts for box terminal using both clamping points finely stranded with core end processing</li> <li>for main contacts for box terminal using both clamping</li> </ul>	min. 2x 50 mm², max. 2x 185 mm² min. 2x 50 mm², max. 2x 185 mm²
<ul> <li>for main contacts for box terminal using both clamping</li> <li>for main contacts for box terminal using both clamping</li> </ul>	min. 2x 70 mm², max. 2x 240 mm²
<ul><li>points stranded</li><li>for main contacts for box terminal using the back</li></ul>	120 185 mm²
<ul><li>clamping point finely stranded with core end processing</li><li>for main contacts for box terminal using the back</li></ul>	120 185 mm²
<ul> <li>clamping point finely stranded without core end processing</li> <li>for main contacts for box terminal using the back</li> <li>clamping point stranded</li> </ul>	120 240 mm²
clamping point stranded	
type of connectable conductor cross-sections	2/0 500 kcmil
for AWG cables for main current circuit solid	
for DIN cable lug for main contacts stranded	50 240 mm <sup>2</sup>
for DIN cable lug for main contacts finely stranded	70 240 mm²
type of connectable conductor cross-sections	0. (0.05 4.5 mm²)
• for control circuit solid	2x (0.25 1.5 mm <sup>2</sup> )
• for control circuit finely stranded with core end processing	2x (0.25 1.5 mm <sup>2</sup> )
<ul> <li>for AWG cables for control circuit solid</li> <li>for AWG cables for control circuit finely stranded with core end processing</li> </ul>	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	14 - 24 N m
<ul> <li>for main contacts with screw-type terminals</li> </ul>	14 24 N·m

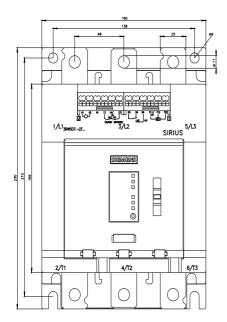
terminals		
tightening torque [lbf·in]		
<ul> <li>for main contacts with screw-type terminals</li> </ul>	124 210 lbf·in	
for auxiliary and control contacts with screw-type terminals	7 10.3 lbf·in	
Ambient conditions		
installation altitude at height above sea level maximum	5 000 m; derating as of 1000 m, see Manual	
ambient temperature		
during operation	-25 +60 °C; Please observe derating at temperatures of 40 °C or above	
<ul> <li>during storage and transport</li> </ul>	-40 +80 °C	
environmental category		
<ul> <li>during operation according to IEC 60721</li> </ul>	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		
<ul> <li>— usable for High Faults at 460/480 V according to UL</li> <li>• of the fuse</li> </ul>	Siemens type: 3VA54, max. 600 A; Iq max = 65 kA	
<ul> <li>— usable for Standard Faults up to 575/600 V according to UL</li> </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		
<ul> <li>at 200/208 V at 50 °C rated value</li> </ul>	60 hp	
<ul> <li>at 220/230 V at 50 °C rated value</li> </ul>	60 hp	
<ul> <li>at 460/480 V at 50 °C rated value</li> </ul>	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 ATEX	finger-safe, for vertical contact from the front with cover	
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 CSA		

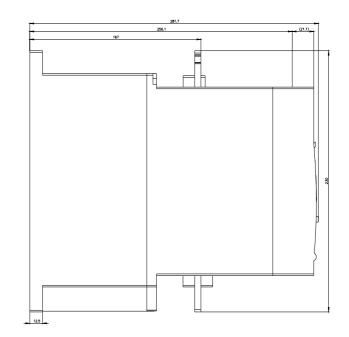
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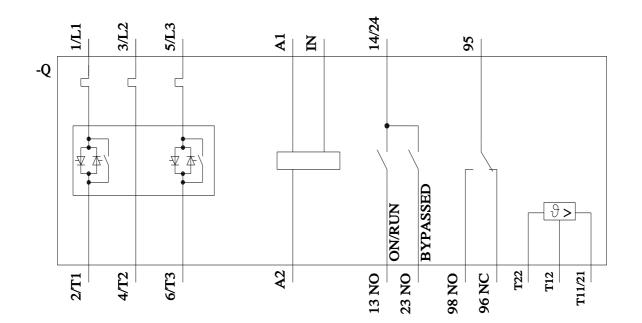


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