## **SIEMENS**

Data sheet 3RW5075-2TB14



SIRIUS soft starter 200-480 V 370 A, 110-250 V AC Spring-loaded terminals Thermistor input



product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW50
manufacturer's article number	
<ul> <li>of standard HMI module usable</li> </ul>	3RW5980-0HS01
<ul> <li>of high feature HMI module usable</li> </ul>	3RW5980-0HF00
<ul> <li>of communication module PROFINET standard usable</li> </ul>	3RW5980-0CS00
<ul> <li>of communication module PROFIBUS usable</li> </ul>	3RW5980-0CP00
<ul> <li>of communication module Modbus TCP usable</li> </ul>	3RW5980-0CT00
<ul> <li>of communication module Modbus RTU usable</li> </ul>	3RW5980-0CR00
<ul> <li>of communication module Ethernet/IP</li> </ul>	3RW5980-0CE00
<ul> <li>of circuit breaker usable at 400 V</li> </ul>	3VA2580-6HN32-0AA0; Type of assignment 1, Iq = 65 kA
<ul> <li>of circuit breaker usable at 500 V</li> </ul>	3VA2580-6HN32-0AA0; Type of assignment 1, Iq = 65 kA
<ul> <li>of the gG fuse usable up to 690 V</li> </ul>	2x3NA3365-6; 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 334-2; 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>	3NE3 336; 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>
General technical data	

<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>
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
<ul> <li>is supported HMI-Standard</li> </ul>	Yes
• is supported HMI-High Feature	Yes
product feature integrated bypass contact system	Yes
number of controlled phases	2
buffering time in the event of power failure	

• for main current circuit	100 ms		
for main current circuit     for control circuit			
insulation voltage rated value	100 ms 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	1 000 V		
surge voltage resistance rated value	6 kV		
maximum permissible voltage for protective separation	UNV		
between main and auxiliary circuit	600 V		
shock resistance	15 g / 11 ms, from 12 g / 11 ms with potential contact lifting		
utilization category according to IEC 60947-4-2	AC-53a		
reference code according to IEC 81346-2	Q		
Substance Prohibitance (Date)	09/23/2019		
SVHC substance name	Lead - 7439-92-1		
SYNC Substance name	Lead - 743-32-1 Lead monoxide (lead oxide) - 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 1,6,7,8,9,14,15,16,17,17,18,18- Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"™) covering any of its individual anti- and syn-isomers or any combination thereof - Dicyclohexyl phthalate (DCHP) - 84-61-7 Dodecamethylcyclohexasiloxane (D6) - 540-97-6		
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; 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		
<ul> <li>via software parameterizable</li> </ul>	No		
<ul> <li>via software configurable</li> </ul>	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	370 A		
• at 50 °C rated value	328 A		
at 60 °C rated value	300 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			
• at 230 V at 40 °C rated value	110 kW		
at 400 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			
<ul> <li>at rotary coding switch on switch position 1</li> </ul>	160 A		

<ul> <li>at rotary coding switch on switch position 2</li> </ul>	174 A
<ul> <li>at rotary coding switch on switch position 3</li> </ul>	188 A
<ul> <li>at rotary coding switch on switch position 4</li> </ul>	202 A
<ul> <li>at rotary coding switch on switch position 5</li> </ul>	216 A
at rotary coding switch on switch position 6	230 A
at rotary coding switch on switch position 7	244 A
at rotary coding switch on switch position 8	258 A
	272 A
<ul> <li>at rotary coding switch on switch position 9</li> </ul>	
<ul> <li>at rotary coding switch on switch position 10</li> </ul>	286 A
<ul> <li>at rotary coding switch on switch position 11</li> </ul>	300 A
<ul> <li>at rotary coding switch on switch position 12</li> </ul>	314 A
<ul> <li>at rotary coding switch on switch position 13</li> </ul>	328 A
<ul> <li>at rotary coding switch on switch position 14</li> </ul>	342 A
<ul> <li>at rotary coding switch on switch position 15</li> </ul>	356 A
<ul> <li>at rotary coding switch on switch position 16</li> </ul>	370 A
• minimum	160 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	3 726 W
• at 50 °C during startup	3 124 W
at 60 °C during startup	2 748 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 voltage frequency	-10 %
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
inrush current by closing the bypass contacts 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
Inputs/ Outputs	scope of supply
· · · · · · · · · · · · · · · · · · ·	1
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

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	1.0.10
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	FO
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
using the front clamping point sold     using the front clamping point finely stranded with core	70 240 mm²
end processing	70 240 Hilli
<ul> <li>using the front clamping point finely stranded without core end processing</li> </ul>	70 240 mm²
<ul> <li>using the front clamping point stranded</li> </ul>	95 300 mm²
<ul> <li>using the back clamping point solid</li> </ul>	120 240 mm²
r box terminal using the back clamping point	250 500 kcmil
using both clamping points solid	min. 2x 70 mm², max. 2x 240 mm²
using both clamping points finely stranded with core end processing	min. 2x 50 mm², max. 2x 185 mm²
using both clamping points finely stranded without core end processing	min. 2x 50 mm², max. 2x 185 mm²
using both clamping points stranded	min. 2x 70 mm², max. 2x 240 mm²
using the back clamping point finely stranded with core	120 185 mm²
end processing  • using the back clamping point finely stranded without core	120 185 mm <sup>2</sup>
end processing	
<ul> <li>using the back clamping point stranded</li> </ul>	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 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)
wire length	
between soft starter and motor maximum	800 m
at the digital inputs at AC maximum	1 000 m
	1 000 111
e for main contacts with coron type terminals	14 24 N.m
for main contacts with screw-type terminals     for auxiliary and control contacts with across type	14 24 N·m
<ul> <li>for auxiliary and control contacts with screw-type terminals</li> </ul>	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	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 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
<ul> <li>during transport according to IEC 60721</li> </ul>	2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)
Environmental footprint	
Siemens Eco Profile (SEP)	Siemens EcoTech
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 the fuse	
<ul> <li>usable for Standard Faults up to 575/600 V according to UL</li> </ul>	Type: Class L, max. 1200 A; Iq = 18 kA
— usable for High Faults up to 575/600 V according to UL	Type: Class L, max. 1200 A; Iq = 100 kA
operating power [hp] for 3-phase motors	
<ul> <li>at 200/208 V at 50 °C rated value</li> </ul>	100 hp
• at 220/230 V at 50 °C rated value	125 hp
• at 460/480 V at 50 °C rated value	250 hp
Electrical Safety	
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	
Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX	SIL1
PFHD with high demand rate according to IEC 61508 relating to ATEX	9E-6 1/h
PFDavg with low demand rate according to IEC 61508 relating to ATEX	0.09
hardware fault tolerance according to IEC 61508 relating to ATEX	0
T1 value for proof test interval or service life according to IEC 61508 relating to ATEX	3 a
certificate of suitability	
• ATEX	Yes
• IECEx	Yes
• UKEX	Yes
Approvals Certificates	

## **General Product Approval**





Confirmation







General Product Approval	For use in hazardous locations	Test Certificates
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<u>KC</u>





Miscellaneous

Type Test Certificates/Test Report

Marine / Shipping

other

**Environment** 







Confirmation







## **Environment**

Environmental Confirmations

## Further information

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=3RW5075-2TB14

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5075-2TB14

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5075-2TB14

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

http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RW5075-2TB14&lang=en

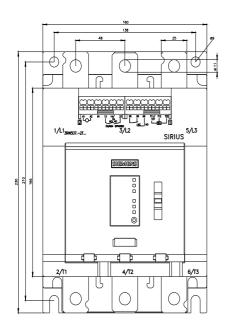
Characteristic: Tripping characteristics, I²t, Let-through current

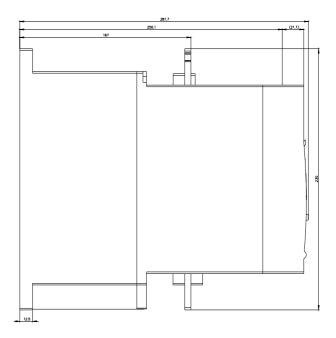
https://support.industry.siemens.com/cs/ww/en/ps/3RW5075-2TB14/char

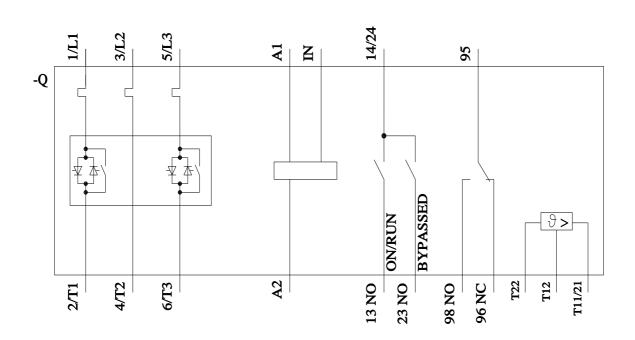
Characteristic: Installation altitude

Simulation Tool for Soft Starters (STS)

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







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