SIEMENS

Data sheet

3RW5244-2TC15



SIRIUS soft starter 200-600 V 250 A, 110-250 V AC spring-type terminals Thermistor input

product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW52
manufacturer's article number	
 of standard HMI module usable 	<u>3RW5980-0HS00</u>
 of high feature HMI module usable 	<u>3RW5980-0HF00</u>
 of communication module PROFINET standard usable 	<u>3RW5980-0CS00</u>
 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 	<u>3RW5980-0CE00</u>
 of circuit breaker usable at 400 V 	3VA2440-7MN32-0AA0; Type of coordination 1, lq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V 	3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 400 V at inside-delta circuit 	3VA2450-7MN32-0AA0: Type of coordination 1. Iq = 65 kA. CLASS 10
 of circuit breaker usable at 500 V at inside-delta circuit 	3VA2450-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of the gG fuse usable up to 690 V 	2x3NA3354-6; Type of coordination 1, Iq = 65 kA
 of the gG fuse usable at inside-delta circuit up to 500 V 	2x3NA3354-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	<u>3NE1331-0: Type of coordination 2. Iq = 65 kA</u>
 of back-up R fuse link for semiconductor protection usable up to 690 V 	<u>3NE3336; Type of coordination 2, Iq = 65 kA</u>
eneral technical data	
starting voltage [%]	30 100 %
stopping voltage [%]	50 50 %
start-up ramp 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 is supported	
HMI-Standard	Yes
HMI-High Feature	Yes

number of controlled phases	3
trip class	 CLASS 10A (default) / 10E / 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
utilization category acc. to IEC 60947-4-2	AC 53a
reference code acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	15.02.2018 00:00:00
product function	
ramp-up (soft starting)	Yes
 ramp-up (soft starting) ramp-down (soft stop) 	Yes
Soft Torque	Yes
adjustable current limitation	Yes
-	Yes
pump ramp down intringin dowing protoction	Yes
intrinsic device protection	
 motor overload protection 	Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)
 evaluation of thermistor motor protection 	Yes; Type A PTC or Klixon / Thermoclick
 inside-delta circuit 	Yes
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
firmware update	Yes
 removable terminal for control circuit 	Yes
torque control	No
 analog output 	No
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
operational current at inside-delta circuit	
 at 40 °C rated value 	433 A
• at 50 °C rated value	381 A
• at 60 °C rated value	346 A
operating voltage	
rated value	200 600 V
at inside-delta circuit rated value	200 600 V
relative negative tolerance of the operating voltage	-15 %
relative positive tolerance of the operating voltage	10 %
relative negative tolerance of the operating voltage at	-15 %
inside-delta circuit	

relative positive tolerance of the operating voltage at inside-delta circuit	10 %
operating power for 3-phase motors	
 at 230 V at 40 °C rated value 	75 kW
 at 230 V at inside-delta circuit at 40 °C rated value 	132 kW
 at 400 V at 40 °C rated value 	132 kW
 at 400 V at inside-delta circuit at 40 °C rated value 	250 kW
 at 500 V at 40 °C rated value 	160 kW
 at 500 V at inside-delta circuit at 40 °C rated value 	315 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
adjustable motor current	
 for inside-delta circuit at rotary coding switch on switch position 1 	173 A
 for inside-delta circuit at rotary coding switch on switch position 2 	191 A
 for inside-delta circuit at rotary coding switch on switch position 3 	208 A
 for inside-delta circuit at rotary coding switch on switch position 4 	225 A
 for inside-delta circuit at rotary coding switch on switch position 5 	242 A
 for inside-delta circuit at rotary coding switch on switch position 6 	260 A
• for inside-delta circuit at rotary coding switch on switch position 7	277 A
• for inside-delta circuit at rotary coding switch on switch position 8	294 A
 for inside-delta circuit at rotary coding switch on switch position 9 for inside data circuit at rotary coding switch on 	312 A
 for inside-delta circuit at rotary coding switch on switch position 10 for inside-delta circuit at rotary coding switch on 	329 A 346 A
 for inside-delta circuit at rotary coding switch on switch position 11 for inside-delta circuit at rotary coding switch on 	364 A
 for inside-delta circuit at rotary coding switch on for inside-delta circuit at rotary coding switch on 	381 A
 for inside-delta circuit at rotary coding switch on for inside-delta circuit at rotary coding switch on 	398 A
 switch position 14 for inside-delta circuit at rotary coding switch on 	416 A
switch position 15	

 for inside-delta circuit at rotary coding switch on 	433 A
switch position 16	
at inside-delta circuit minimum	173 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	87 W
• at 50 °C after startup	78 W
• at 60 °C after startup	72 W
power loss [W] at AC at current limitation 350 %	
	2.040.04
• at 40 °C during startup	3 818 W
• at 50 °C during startup	3 188 W
• at 60 °C during startup	2 799 W
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	-15 %
voltage at AC at 50 Hz	
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	100 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	1; Type A PTC or Klixon / Thermoclick
number of digital outputs	3
not parameterizable	2
digital output version	2 normally-open contacts (NO) / 1 changeover contact (CO)
number of analog outputs	
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	1A
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	393 mm
width	210 mm
depth	203 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 9.9 kg Connections/ Terminals	
e downwards at the side for mm form for mm form form form formm form fo	
• at the side 5 mm weight without packaging 9.9 kg	
weight without packaging 9.9 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	
wire length for thermistor connection	
• with conductor cross-section = 0.5 mm ² maximum 50 m	
• with conductor cross-section = 1.5 mm ² maximum 150 m	
with conductor cross-section = 2.5 mm ² maximum 250 m	
type of connectable conductor cross-sections	
• for DIN cable lug for main contacts stranded 2x (50 240 mm ²)	
for DIN cable lug for main contacts finely stranded 2x (70 240 mm ²)	
type of connectable conductor cross-sections	
• for control circuit solid 2x (0.25 1.5 mm ²)	
• for control circuit finely stranded with core end 2x (0.25 1.5 mm ²) processing	
• 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 100 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	
Ambient conditions	
installation altitude at height above sea level maximum 5 000 m; Derating as of 1000 m, see catalo	og
• during operation • during operation • during operation • during operation • -25 +60 °C; Please observe derating at te	emperatures 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 cond mist), 3S2 (sand must not get into the device	ces), 3M6
• during storage acc. to IEC 60721 1K6 (only occasional condensation), 1C2 (r not get inside the devices), 1M4	
during transport acc. to IEC 60721 2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m	1)
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 Standard Faults at 460/480 V Siemens type: 3VA53, max. 400 A or 3VA5 according to UL 	54, max. 600 A; lq = 18 kA

— usable for High Faults at 460/480 V according to UL	Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq max = 65 kA
 usable for Standard Faults at 460/480 V at inside-delta circuit according to UL 	Siemens type: 3VA54, max. 600 A; lq = 18 kA
— usable for High Faults at 460/480 V at inside- delta circuit according to UL	Siemens type: 3VA54, max. 600 A; lq max = 65 kA
— usable for Standard Faults at 575/600 V according to UL	Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 18 kA
 usable for Standard Faults at 575/600 V at inside-delta circuit according to UL 	Siemens type: 3VA54, max. 600 A; lq = 18 kA
 of the fuse 	
 — usable for Standard Faults up to 575/600 V according to UL 	Type: Class J / L, max. 800 A; lq = 18 kA
— usable for High Faults up to 575/600 V according to UL	Type: Class J / L, max. 800 A; lq = 100 kA
 — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 800 A; Iq = 18 kA
 — usable for High Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 800 A; lq = 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
at 200/208 V at inside-delta circuit at 50 °C rated value	125 hp
at 220/230 V at inside-delta circuit at 50 °C rated value	150 hp
• at 460/480 V at inside-delta circuit at 50 °C rated value	300 hp
at 575/600 V at inside-delta circuit at 50 °C rated value	350 hp
contact rating of auxiliary contacts according to UL	R300-B300
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
electromagnetic compatibility	in accordance with IEC 60947-4-2
Certificates/ approvals	
	Declaration of
General Product Approval	EMC Conformity
	0
CSA CCC UL	RCM EG-Konf.
Test Certificates Marine / Shipping	
Type Test Cartific	
Type Test Certific- ates/Test Report	Llovds
	Kegister
ABS	LRS PRS Deval.com
VERIT	8
other	
Confirmation	
Confirmation	
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=3RW5244-2TC15

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5244-2TC15

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5244-2TC15

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5244-2TC15&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

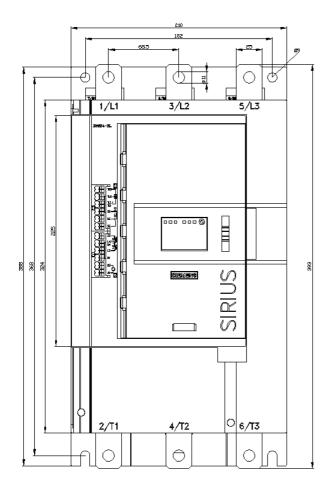
https://support.industry.siemens.com/cs/ww/en/ps/3RW5244-2TC15/char

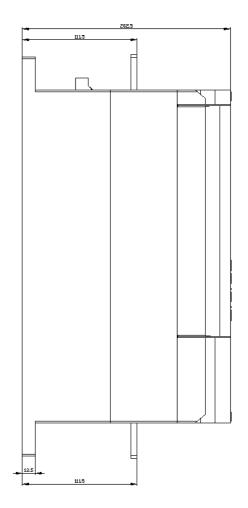
Characteristic: Installation altitude

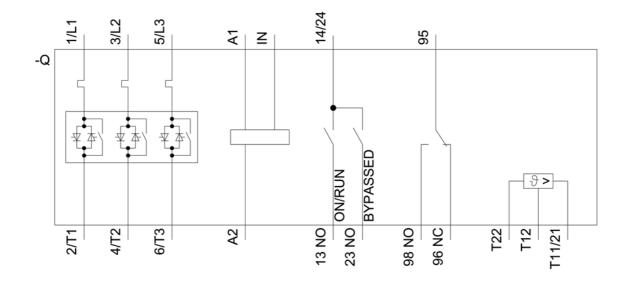
 $\underline{http://www.automation.siemens.com/bilddb/index.aspx?view=Search\&mlfb=3RW5244-2TC15\&objecttype=14\&gridview=view1$

Simulation Tool for Soft Starters (STS)

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







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