SIEMENS

Data sheet 3RW5244-6TC14



SIRIUS soft starter 200-480 V 250 A, 110-250 V AC Screw 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 	3RW5980-0HS00
 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 coordination 1, Iq = 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 	3NE1331-0; Type of coordination 2, Iq = 65 kA
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE3336; Type of coordination 2, Iq = 65 kA
General 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

UL approvalCSA approval

• HMI-Standard

• HMI-High Feature

product component is supported

product feature integrated bypass contact system

Yes Yes

Yes

Yes

Yes

Yes

number of controlled phases	2
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	400
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	000 1/
between main and auxiliary circuit shock resistance	600 V
	15 g / 11 ms, from 12 g / 11 ms with potential contact lifting
vibration resistance	15 mm to 6 Hz; 2g to 500 Hz AC 53a
utilization category acc. to IEC 60947-4-2	Q Q
	15.02.2018 00:00:00
Substance Prohibitance (Date)	15.02.2016 00.00.00
product function • ramp-up (soft starting)	Yes
	Yes
ramp-down (soft stop)Soft Torque	Yes
adjustable current limitation	Yes
pump ramp down	Yes
	Yes
intrinsic device protection meter everland 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	200 480 V
at inside-delta circuit rated value	200 480 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 inside-delta circuit	-15 %

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
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 	312 A
 for inside-delta circuit at rotary coding switch on switch position 10 	329 A
 for inside-delta circuit at rotary coding switch on switch position 11 	346 A
 for inside-delta circuit at rotary coding switch on switch position 12 	364 A
 for inside-delta circuit at rotary coding switch on switch position 13 	381 A
 for inside-delta circuit at rotary coding switch on switch position 14 	398 A
for inside-delta circuit at rotary coding switch on switch position 15	416 A
 for inside-delta circuit at rotary coding switch on switch position 16 	433 A

• at inside-delta circuit minimum minimum load [%] power loss [W] for rated value of the current at AC • at 40 °C after startup • at 50 °C after startup • at 60 °C after startup • at 40 °C during startup • at 50 °C during startup • at 60 °C during startup • at 60 °C during startup • at 60 °C during startup • at 60 °C during startup • at 60 °C during startup control circuit/ Control type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz • at 60 Hz relative negative tolerance of the control supply voltage at AC at 50 Hz relative negative tolerance of the control supply voltage at AC at 50 Hz relative negative tolerance of the control supply voltage at AC at 50 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz control supply voltage frequency 50 60 Hz	
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voltage at AC at 60 Hz	
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	
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 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 m circuit breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= inot 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 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	
Installation/ mounting/ dimensions	
mounting position with vertical mounting surface +/-90° rotatable, with vertical most surface +/- 22.5° tiltable to the front and back	unting
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	
type of electrical connection	
for main current circuit	busbar connection
for control circuit	screw-type terminals
width of connection bar maximum	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 DIN cable lug for main contacts stranded 	2x (50 240 mm²)
for DIN cable lug for main contacts finely stranded	2x (70 240 mm²)
type of connectable conductor cross-sections	
 for control circuit solid 	1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)
 for control circuit finely stranded with core end 	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
processing	4(00 40) 0(00 44)
at AWG cables for control circuit solid	1x (20 12), 2x (20 14)
wire length	000
between soft starter and motor maximum	800 m
at the digital inputs at AC maximum	100 m
tightening torque	44 0411
for main contacts with screw-type terminals	14 24 N·m
 for auxiliary and control contacts with screw-type terminals 	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	7 10.0 101 111
Ambient conditions	
installation altitude at height above sea level maximum	5 000 m; Derating as of 1000 m, see catalog
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 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
♥ during storage acc. to IEC 00/21	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	
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	Signans type: 3\/\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
according to UL	Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 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; Iq = 18 kA
inside-della circuit according to ob	

— usable for High Faults at 460/480 V at inside-delta circuit according to UL $\,$

— usable for Standard Faults at 575/600 V according to UL

— usable for Standard Faults at 575/600 V at inside-delta circuit according to UL $\,$

• of the fuse

— usable for Standard Faults up to 575/600 V according to UL $\,$

— usable for High Faults up to 575/600 V according to UL $\,$

— usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL

— usable for High Faults at inside-delta circuit up to 575/600 V according to UL

Siemens type: 3VA54, max. 600 A; Iq max = 65 kA

Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 18 kA

Siemens type: 3VA54, max. 600 A; Iq = 18 kA

Type: Class J / L, max. 800 A; Iq = 18 kA

Type: Class J / L, max. 800 A; Iq = 100 kA

Type: Class J / L, max. 800 A; Iq = 18 kA

Type: Class J / L, max. 800 A; Iq = 100 kA

operating power [hp] for 3-phase motors

at 200/208 V at 50 °C rated value
 at 220/230 V at 50 °C rated value
 at 460/480 V at 50 °C rated value

 at 200/208 V at inside-delta circuit at 50 °C rated value

 \bullet at 220/230 V at inside-delta circuit at 50 $^{\circ}\text{C}$ rated value

• at 460/480 V at inside-delta circuit at 50 °C rated value

60 hp 75 hp 150 hp

125 hp

150 hp

300 hp

contact rating of auxiliary contacts according to UL

R300-B300

Safety related data

protection class IP on the front acc. to IEC 60529

touch protection on the front acc. to IEC 60529

electromagnetic compatibility

IP00; IP20 with cover
finger-safe, for vertical contact from the front with cover
in accordance with IEC 60947-4-2

Certificates/ approvals

General Product Approval

EMC

Declaration of Conformity













Test Certificates

Marine / Shipping

Type Test Certificates/Test Report











other

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=3RW5244-6TC14

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5244-6TC14

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RW5244-6TC14

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5244-6TC14&lang=en

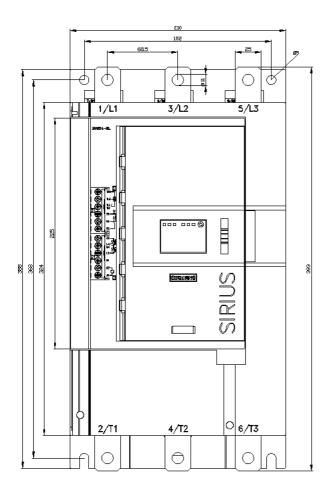
Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RW5244-6TC14/char

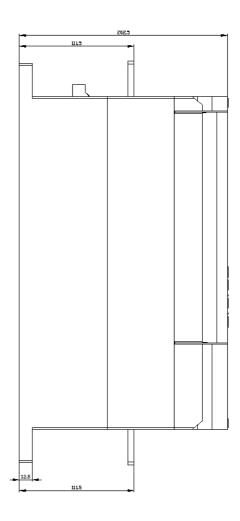
Characteristic: Installation altitude

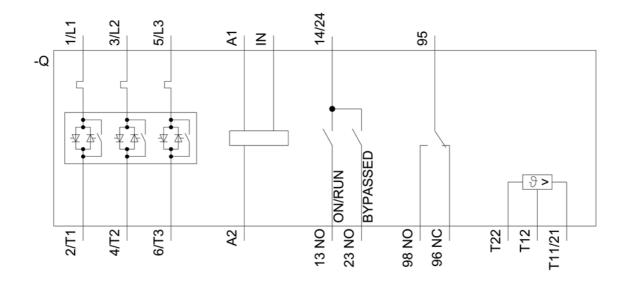
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5244-6TC14&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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