SIEMENS

Data sheet 3RW5227-1TC04



SIRIUS soft starter 200-480 V 93 A, 24 V AC/DC Screw terminals Thermistor input

product brand name product category product designation product type designation manufacturer's article number

- of standard HMI module usable
- of high feature HMI module usable
- of communication module PROFINET standard usable
- of communication module PROFIBUS usable
- of communication module Modbus TCP usable
- of communication module Modbus RTU usable
- of communication module Ethernet/IP
- of circuit breaker usable at 400 V
- of circuit breaker usable at 500 V
- of circuit breaker usable at 400 V at inside-delta circuit
- of circuit breaker usable at 500 V at inside-delta circuit
- of the gG fuse usable up to 690 V
- of the gG fuse usable at inside-delta circuit up to 500 V
- \bullet of full range R fuse link for semiconductor protection usable up to 690 V
- of back-up R fuse link for semiconductor protection usable up to 690 V

SIRIUS

Hybrid switching devices

Soft starter

3RW52

3RW5980-0HS00

3RW5980-0HF00

3RW5980-0CS00

3RW5980-0CP00

3RW5980-0CT00

3RW5980-0CR00

3RW5980-0CE00

3VA2216-7MN32-0AA0; Type of coordination 1, Iq = 15 kA, CLASS 10

3VA2216-7MN32-0AA0; Type of coordination 1, Iq = 10 kA, CLASS 10

3VA2220-7MN32-0AA0; Type of coordination 1, Iq = 15 kA, CLASS 10

3VA2220-7MN32-0AA0; Type of coordination 1, Iq = 10 kA, CLASS 10

3NA3136-6; Type of coordination 1, Iq = 65 kA

3NA3136-6; Type of coordination 1, Iq = 65 kA

3NE1224-0; Type of coordination 2, Iq = 65 kA

3NE4124; Type of coordination 2, Iq = 65 kA

General technical data

starting voltage [%] stopping voltage [%] start-up ramp time of soft starter current limiting value [%] adjustable certificate of suitability

- CE marking
- UL approval
- CSA approval

product component

- HMI-High Feature
- is supported HMI-Standard
- is supported HMI-High Feature

product feature integrated bypass contact system number of controlled phases

trip class

buffering time in the event of power failure

30 ... 100 %

50 %; non-adjustable

0 ... 20 s

130 ... 700 %

Yes

Yes

Yes

No

Yes

Yes

Yes

3

CLASS 10A (default) / 10E / 20E; acc. to IEC 60947-4-2

a for main ourrent aircuit	100 mg
• for main current circuit	100 ms 100 ms
• for control circuit	
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	1 400 V
service factor	1
surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	000.1/
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)	02/15/2018
product function	Voc
• ramp-up (soft starting)	Yes
• ramp-down (soft stop)	Yes
Soft Torque adjustable current limitation	Yes Yes
adjustable current limitation pump ramp down	Yes
pump ramp down intrinsic device protection	Yes
intrinsic device protectionmotor overload protection	Yes; Full motor protection (thermistor motor protection and electronic
·	motor overload protection)
evaluation of thermistor motor protection incide delta circuit	Yes; Type A PTC or Klixon / Thermoclick Yes
• inside-delta circuit	Yes
• auto-RESET	Yes
manual RESET remote reset	
communication function	Yes; By turning off the control supply voltage 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	93 A
at 50 °C rated value	82.5 A
at 60 °C rated value	75.5 A
operational current at inside-delta circuit	
at 40 °C rated value	161 A
at 50 °C rated value	143 A
at 60 °C rated value	131 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	22 kW
at 230 V at inside-delta circuit at 40 °C rated value	45 kW
at 400 V at 40 °C rated value	45 kW
• at 400 V at inside-delta circuit at 40 °C rated value	90 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 	40.5 A
 at rotary coding switch on switch position 2 	44 A
 at rotary coding switch on switch position 3 	47.5 A
 at rotary coding switch on switch position 4 	51 A
at rotary coding switch on switch position 5	54.5 A
 at rotary coding switch on switch position 6 	58 A
at rotary coding switch on switch position 7 at rotary coding switch on switch position 9	61.5 A
at rotary coding switch on switch position 8 at rotary coding switch on switch position 0.	65 A 68.5 A
 at rotary coding switch on switch position 9 at rotary coding switch on switch position 10 	72 A
at rotary coding switch on switch position 11 at rotary coding switch on switch position 11	75.5 A
at rotary coding switch on switch position 12	79 A
at rotary coding switch on switch position 13	82.5 A
at rotary coding switch on switch position 14	86 A
at rotary coding switch on switch position 15	89.5 A
at rotary coding switch on switch position 16	93 A
• minimum	40.5 A
adjustable motor current	
 for inside-delta circuit at rotary coding switch on switch position 1 	70.1 A
 for inside-delta circuit at rotary coding switch on switch position 2 	76.2 A
 for inside-delta circuit at rotary coding switch on switch position 3 	82.3 A
 for inside-delta circuit at rotary coding switch on switch position 4 	88.3 A
 for inside-delta circuit at rotary coding switch on switch position 5 	94.4 A
 for inside-delta circuit at rotary coding switch on switch position 6 	100 A
 for inside-delta circuit at rotary coding switch on switch position 7 	107 A
 for inside-delta circuit at rotary coding switch on switch position 8 for inside-delta circuit at rotary coding switch on 	113 A
ior inside-delta circuit at rotary coding switch on switch position 9 for inside-delta circuit at rotary coding switch on	119 A 125 A
switch position 10 • for inside-delta circuit at rotary coding switch on	131 A
switch position 11 • for inside-delta circuit at rotary coding switch on	137 A
switch position 12 • for inside-delta circuit at rotary coding switch on	143 A
switch position 13 • for inside-delta circuit at rotary coding switch on	149 A
switch position 14for inside-delta circuit at rotary coding switch on	155 A
switch position 15for inside-delta circuit at rotary coding switch on	161 A
switch position 16	70.4.0
at inside-delta circuit minimum minimum load [9/1]	70.1 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	40 W
• at 50 °C after startup	37 W
• at 60 °C after startup	35 W
power loss [W] at AC at current limitation 350 %	
at 40 °C during startup	1 270 W
at 50 °C during startup	1 077 W
at 60 °C during startup	959 W
Control circuit/ Control	
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	

* at 60 Hz meted value * at 60 Hz meted value value value to letance of the control supply voltage at AC at 50 Hz voltage at AC at 50 Hz voltage at AC at 50 Hz voltage at AC at 60 Hz voltage of AC at 60 Hz voltage fragery voltage of AC at 60 Hz voltage fragery voltage of AC at 60 Hz voltage fragery voltage at AC at 60 Hz voltage at AC at 60 Hz voltage fragery voltage fragery voltage fragery voltage fragery voltage fragery voltage fragery voltage at AC at 60 Hz voltage a		
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 at the side weight without packaging 6.9 kg Connections/ Terminals type of electrical connection for main current circuit for control circuit for connection bar maximum width of connection bar maximum wire length for thermistor connection with conductor cross-section = 0.5 mm² maximum with conductor cross-section = 1.5 mm² maximum with conductor cross-section = 2.5 mm² maximum with conductor cross-sections for main contacts for box terminal using the front 1x (2.5 16 mm²)	•	
weight without packaging Connections/ Terminals type of electrical connection • for main current circuit box terminal • for control circuit screw-type terminals width of connection bar maximum 25 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 1x (2.5 16 mm²)		
type of electrical connection • for main current circuit • for control circuit • for control circuit width of connection bar maximum wire length for thermistor connection • with conductor cross-section = 0.5 mm² maximum • with conductor cross-section = 1.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum type of connectable conductor cross-sections • for main contacts for box terminal using the front box terminal screw-type terminals 50 m 50 m 150 m 250 m		
type of electrical connection • for main current circuit • for control circuit • for connection bar maximum wire length for thermistor connection • with conductor cross-section = 0.5 mm² maximum • with conductor cross-section = 1.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum • with conductor cross-sections • for main contacts for box terminal using the front box terminal box terminal 50 m 50 m 150 m 250 m		o.a vy
 for main current circuit for control circuit for control circuit screw-type terminals width of connection bar maximum wire length for thermistor connection with conductor cross-section = 0.5 mm² maximum with conductor cross-section = 1.5 mm² maximum with conductor cross-section = 2.5 mm² maximum with conductor cross-section = 2.5 mm² maximum type of connectable conductor cross-sections for main contacts for box terminal using the front for main contacts for box terminal using the front for main contacts 		
 for control circuit width of connection bar maximum wire length for thermistor connection with conductor cross-section = 0.5 mm² maximum with conductor cross-section = 1.5 mm² maximum with conductor cross-section = 2.5 mm² maximum with conductor cross-section = 2.5 mm² maximum type of connectable conductor cross-sections for main contacts for box terminal using the front for main contacts for box terminal using the front for main contacts 		
width of connection bar maximum wire length for thermistor connection • with conductor cross-section = 0.5 mm² maximum • with conductor cross-section = 1.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum type of connectable conductor cross-sections • for main contacts for box terminal using the front 25 mm 50 m 250 m 1x (2.5 16 mm²)		
 wire length for thermistor connection with conductor cross-section = 0.5 mm² maximum with conductor cross-section = 1.5 mm² maximum with conductor cross-section = 2.5 mm² maximum type of connectable conductor cross-sections for main contacts for box terminal using the front 1x (2.5 16 mm²) 		
 with conductor cross-section = 0.5 mm² maximum with conductor cross-section = 1.5 mm² maximum with conductor cross-section = 2.5 mm² maximum type of connectable conductor cross-sections for main contacts for box terminal using the front 50 m 250 m 1x (2.5 16 mm²) 		25 mm
 with conductor cross-section = 1.5 mm² maximum with conductor cross-section = 2.5 mm² maximum type of connectable conductor cross-sections for main contacts for box terminal using the front 150 m 250 m 1x (2.5 16 mm²) 		
 with conductor cross-section = 2.5 mm² maximum type of connectable conductor cross-sections for main contacts for box terminal using the front 1x (2.5 16 mm²) 		
type of connectable conductor cross-sections ● for main contacts for box terminal using the front		
• for main contacts for box terminal using the front 1x (2.5 16 mm²)		250 m
	••	
		1x (2.5 16 mm²)

 for main contacts for box terminal using the front clamping point finely stranded with core end processing 	1x (2.5 50 mm²)
for main contacts for box terminal using the front clamping point stranded	1x (10 70 mm²)
at AWG cables for main contacts for box terminal using the front clamping point	1x (10 2/0)
for main contacts for box terminal using the back clamping point solid	1x (2.5 16 mm²)
at AWG cables for main contacts for box terminal using the back clamping point	1x (10 2/0)
 for main contacts for box terminal using both clamping points solid 	2x (2.5 16 mm²)
 for main contacts for box terminal using both clamping points finely stranded with core end processing 	2x (2.5 35 mm²)
for main contacts for box terminal using both clamping points stranded	2x (6 16 mm²), 2x (10 50 mm²)
 for main contacts for box terminal using the back clamping point finely stranded with core end processing 	1x (2.5 50 mm²)
 for main contacts for box terminal using the back clamping point stranded 	1x (10 70 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 processing 	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
 at AWG cables for control circuit solid 	1x (20 12), 2x (20 14)
wire length	
 between soft starter and motor maximum 	800 m
 at the digital inputs at AC maximum 	100 m
at the digital inputs at DC maximum	1 000 m
tightening torque	
for main contacts with screw-type terminals	4.5 6 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 	40 53 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 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 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 PROFIBLES	Yes
PROFIBUS	Yes
UL/CSA ratings	
manufacturer's article number	
of circuit breaker	
 usable for Standard Faults at 460/480 V according to UL 	Siemens type: 3VA51, max. 125 A; Iq = 10 kA
— usable for High Faults at 460/480 V according	Siemens type: 3VA51, max. 125 A; Iq max = 65 kA
6. 1.0	

to UL

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

— 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

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

• at 220/230 V at inside-delta circuit at 50 °C rated

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

contact rating of auxiliary contacts according to UL

Siemens type: 3VA51, max. 125 A; Iq = 10 kA

Siemens type: 3VA51, max. 125 A; Iq max = 65 kA

Siemens type: 3VA51, max. 125 A; Iq = 10 kA

Siemens type: 3VA51, max. 125 A; Iq = 10 kA

Type: Class RK5 / K5, max. 300 A; Iq = 10 kA

Type: Class J / L, max. 250 A; Iq = 100 kA

Type: Class RK5 / K5, max. 300 A; Iq = 10 kA

Type: Class J / L, max. 250 A; Iq = 100 kA

25 hp

30 hp

60 hp

40 hp

50 hp

100 hp

R300-B300

Safety related data

protection class IP on the front according to IEC 60529

touch protection on the front according 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



Confirmation









Declaration of Conformity

Test Certificates

Marine / Shipping





Type Test Certificates/Test Report







Marine / Shipping

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=3RW5227-1TC04

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5227-1TC04

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5227-1TC04

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax de.aspx?mlfb=3RW5227-1TC04&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

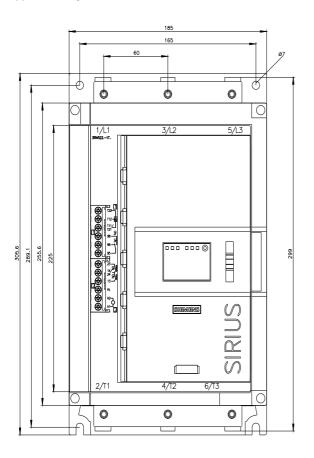
https://support.industry.siemens.com/cs/ww/en/ps/3RW5227-1TC04/char

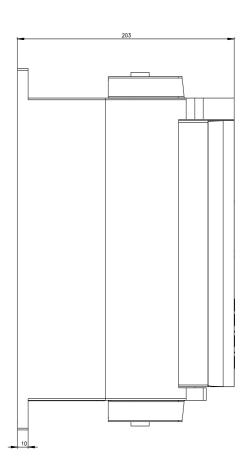
Characteristic: Installation altitude

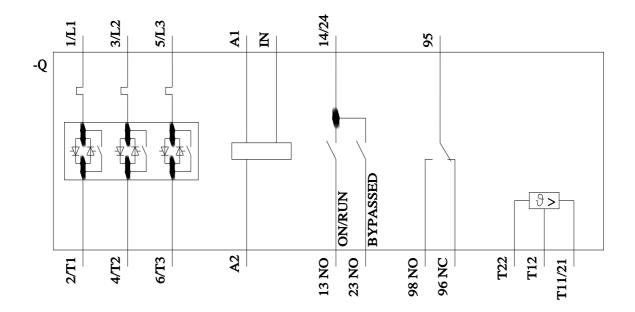
 $\underline{http://www.automation.siemens.com/bilddb/index.aspx?view=Search\&mlfb=3RW5227-1TC04\&objecttype=14\&gridview=view1}$

Simulation Tool for Soft Starters (STS)

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







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