SIEMENS

product brand name

Data sheet 3RW5213-1AC04

SIRIUS



SIRIUS soft starter 200-480 V 13 A, 24 V AC/DC Screw terminals Analog output

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 	3RV2032-4TA10; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V 	3RV2032-4TA10; Type of coordination 1, Iq = 18 kA, CLASS 10
 of circuit breaker usable at 400 V at inside-delta circuit 	3RV2032-4DA10; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V at inside-delta circuit 	3RV2032-4DA10; Type of coordination 1, Iq = 18 kA, CLASS 10
 of the gG fuse usable up to 690 V 	3NA3820-6; Type of coordination 1, Iq = 65 kA
 of the gG fuse usable at inside-delta circuit up to 500 V 	3NA3820-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	3NE1815-0; Type of coordination 2, Iq = 65 kA
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE8017-1; 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	Yes
UL approval	Yes
CSA approval	Yes
product component is supported	
HMI-Standard	Yes
HMI-High Feature	Yes
product feature integrated bypass contact system	Yes

www.hov.of.controlled.whoose	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 for main current circuit	400
	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	0001/
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 45 00 0040 00 00 00
Substance Prohibitance (Date)	15.02.2018 00:00:00
product function	Von
• ramp-up (soft starting)	Yes
• ramp-down (soft stop)	Yes
Soft Torque adjustable current limitation	Yes
adjustable current limitation	Yes
pump ramp down intrinsis double graphs attack	Yes
intrinsic device protection	Yes
motor overload protection	Yes; Electronic motor overload protection
evaluation of thermistor motor protection	No
• 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	Yes; 4 20 mA (default) / 0 10 V (parameterizable with High Feature HMI)
Power Electronics	
operational current	
 at 40 °C rated value 	13 A
 at 50 °C rated value 	12 A
at 60 °C rated value	11 A
operational current at inside-delta circuit	
 at 40 °C rated value 	22.5 A
 at 50 °C rated value 	19.9 A
at 60 °C rated value	18.2 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 	3 kW
 at 230 V at inside-delta circuit at 40 °C rated value 	5.5 kW
 at 400 V at 40 °C rated value 	5.5 kW
 at 400 V at inside-delta circuit at 40 °C rated value 	11 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 	5.5 A
 at rotary coding switch on switch position 2 	6 A
 at rotary coding switch on switch position 3 	6.5 A
at rotary coding switch on switch position 4	7 A
 at rotary coding switch on switch position 5 	7.5 A
at rotary coding switch on switch position 6	8 A
 at rotary coding switch on switch position 7 	8.5 A
at rotary coding switch on switch position 8	9 A
at rotary coding switch on switch position 9	9.5 A
at rotary coding switch on switch position 10	10 A
at rotary coding switch on switch position 11	10.5 A
at rotary coding switch on switch position 12	11 A
at rotary coding switch on switch position 13	11.5 A
at rotary coding switch on switch position 14	12 A
at rotary coding switch on switch position 15	12.5 A
at rotary coding switch on switch position 16	13 A
• minimum	5.5 A
adjustable motor current	0.071
for inside-delta circuit at rotary coding switch on switch position 1	9.5 A
 for inside-delta circuit at rotary coding switch on switch position 2 	10.4 A
 for inside-delta circuit at rotary coding switch on switch position 3 	11.3 A
 for inside-delta circuit at rotary coding switch on switch position 4 	12.1 A
 for inside-delta circuit at rotary coding switch on switch position 5 	13 A
 for inside-delta circuit at rotary coding switch on switch position 6 	13.9 A
 for inside-delta circuit at rotary coding switch on switch position 7 	14.7 A
 for inside-delta circuit at rotary coding switch on switch position 8 	15.6 A
 for inside-delta circuit at rotary coding switch on switch position 9 	16.5 A
 for inside-delta circuit at rotary coding switch on switch position 10 	17.3 A
for inside-delta circuit at rotary coding switch on switch position 11	18.2 A
for inside-delta circuit at rotary coding switch on switch position 12 for inside delta significant rotary coding switch on	19.1 A
for inside-delta circuit at rotary coding switch on switch position 13	19.9 A
for inside-delta circuit at rotary coding switch on switch position 14	20.8 A
for inside-delta circuit at rotary coding switch on switch position 15	21.7 A
 for inside-delta circuit at rotary coding switch on switch position 16 	22.5 A

at inside-delta circuit minimum	9.5 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	15 W
at 60 °C after startup	15 W
power loss [W] at AC at current limitation 350 %	
at 40 °C during startup	210 W
at 50 °C during startup at 50 °C during startup	178 W
at 60 °C during startup	161 W
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 AC at 50 Hz	-20 %
relative positive tolerance of the control supply voltage at AC at 50 Hz	20 %
relative negative tolerance of the control supply voltage at AC at 60 Hz	-20 %
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	360 mA
locked-rotor current at close of bypass contact maximum	0.75 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 design of short-circuit protection for control circuit	Varistor 4 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature
design of short-circuit protection for control circuit	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	0
number of digital outputs	3
not parameterizable	2
digital output version	2 normally-open contacts (NO) / 1 changeover contact (CO)
number of analog outputs	1
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	+/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface
fastening method	screw fixing
height	275 mm

width	170 mm
depth	152 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	2.1 kg
Connections/ Terminals	
type of electrical connection	
for main current circuit	screw-type terminals
for control circuit	screw-type terminals
type of connectable conductor cross-sections	
for main contacts	
— solid	2x (1.0 2.5 mm²), 2x (2.5 10 mm²)
 finely stranded with core end processing 	2x (1.0 2.5 mm²), 2x (2.5 6.0 mm²)
at AWG cables for main current circuit solid	2x (16 12), 2x (14 8)
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 4.6 mm²), 2x (0.5 1.5 mm²)
processing	(5.2 2.0), 2 (5.0 1.0)
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	2 2.5 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 	18 22 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
- during atomorp and transport	above
during storage and transport	40 +80 °C
environmental category	2VG (no ice formation, only accessional condensation), 2C2 (no call
 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 IEO 00721	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 RTO Modbus TCP	Yes
	100
	Ves
• PROFIBUS	Yes
PROFIBUS JL/CSA ratings	Yes
PROFIBUS JL/CSA ratings manufacturer's article number	Yes
PROFIBUS JL/CSA ratings	Yes Siemens type: 3RV2742, max. 40 A or 3VA51, max. 40 A; lq = 5 kA

according to UL

- usable for High Faults at 460/480 V according 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 insidedelta 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

- 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: 3RV2742, max. 30 A or 3VA51, max. 35 A; Iq max = 65

Siemens type: 3RV2742, max. 40 A or 3VA51, max. 40 A; Iq = 5 kA

Siemens type: 3RV2742, max. 30 A or 3VA51, max. 35 A; Iq max = 65

Siemens type: 3RV2742, max. 40 A or 3VA51, max. 40 A; Iq = 5 kA

Siemens type: 3RV2742, max. 40 A or 3VA51, max. 40 A; Iq = 5 kA

Type: Class RK5 / K5, max. 50 A; Iq = 5 kA

Type: Class J / L, max. 50 A; Iq = 100 kA

Type: Class RK5 / K5, max. 50 A; Iq = 5 kA

Type: Class J / L, max. 50 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

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

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

2 hp

3 hp

7.5 hp

5 hp

5 hp

10 hp

R300-B300

contact rating of auxiliary contacts according to UL

Safety related data

protection class IP on the front acc. to IEC 60529

touch protection on the front acc. to IEC 60529

electromagnetic compatibility

IP20

finger-safe, for vertical contact from the front

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=3RW5213-1AC04

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5213-1AC04

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5213-1AC04

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5213-1AC04&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

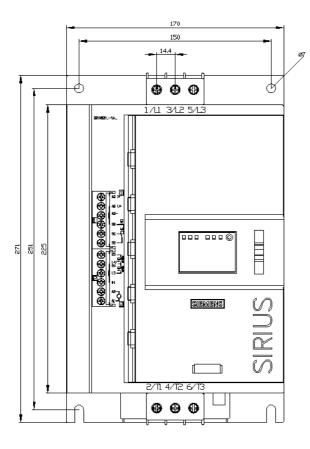
https://support.industry.siemens.com/cs/ww/en/ps/3RW5213-1AC04/char

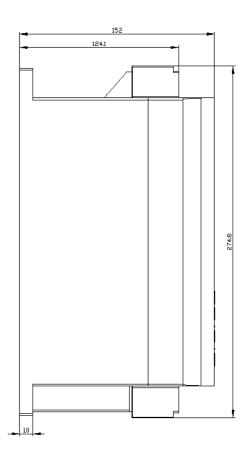
Characteristic: Installation altitude

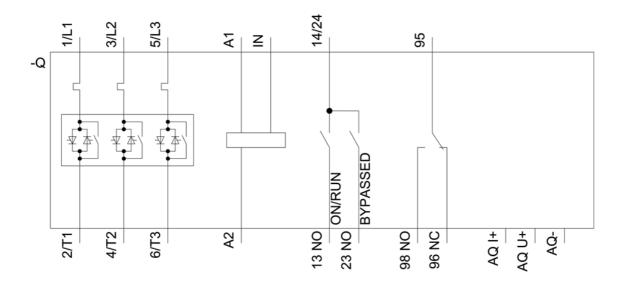
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5213-1AC04&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







last modified: 8/10/2021 🖸