SIEMENS

Data sheet

3RW5213-3TC04



SIRIUS soft starter 200-480 V 13 A, 24 V AC/DC 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 	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 	<u>3RV2032-4DA10; Type of coordination 1, Iq = 65 kA, CLASS 10</u>
 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 	<u>3NA3820-6; Type of coordination 1, Iq = 65 kA</u>
 of full range R fuse link for semiconductor protection usable up to 690 V 	<u>3NE1815-0; Type of coordination 2, Iq = 65 kA</u>
 of back-up R fuse link for semiconductor protection usable up to 690 V 	<u>3NE8017-1; Type of coordination 2, Iq = 65 kA</u>
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

The class CLASS 10A (default) / 10E / 20E; soc. to IEC 60947.4.2 buffering line in the event of power failure 100 ms • for main current circuit 100 ms insultation voltage relat value 600 V degree of pollution 3. acc. (b IEC 60947.4.2 impuise voltage relat value 6 kV becking voltage of the thyristor maximum 1600 V service factor 1 surge voltage resistance rated value 6 kV • between main and axuliary circuit 6 bV * between main and axuliary circuit 15 g/ 11 ms, from 12 g/ 11 ms with potential contact lifting • between main and axuliary circuit 15 g/ 11 ms, from 12 g/ 11 ms with potential contact lifting • between main and axuliary circuit 15 g/ 11 ms, from 12 g/ 11 ms with potential contact lifting • between main and axuliary circuit 15 g/ 11 ms, from 12 g/ 11 ms with potential contact lifting • ubitration category acc. to IEC 61947.4-2 CG 63 a reference code acc. to IEC 61947.4-2 CG 53 a • arge values of the mainton Yes • ubitration device portection Yes • arge values of the mainton Yes • ubitration de	number of controlled phases	3
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 at 50 °C rated value at 60 °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 at 60 °C rated value 200 480 V at inside-delta circuit rated value 15 % 	operational current	
• at 60 °C rated value11 Aoperational current at inside-delta circuit11 A• at 40 °C rated value22.5 A• at 50 °C rated value19.9 A• at 60 °C rated value18.2 Aoperating voltage200 480 V• at inside-delta circuit rated value200 480 V• at inside-delta circuit rated value11.8 V• at inside-delta circuit rated value200 480 V• at inside-delta circuit rated value11.8 V• at inside-delta circuit rated value200 480 V• at inside-delta circuit rated value11.8 V• at inside-delta circuit rated value200 480 V• at inside-delta circuit rated value11.8 V• at inside-delta circuit rated value200 480 V• at inside-delta circuit rated value11.8 V• at inside-delta circuit rated value11.8 V• at inside-delta circuit rated value11.8 V• at inside-delta circuit rated value200 480 V• at inside-delta circuit rated value11.8 V• at inside-delta circuit rate va	• at 40 °C rated value	13 A
operational current at inside-delta circuit22.5 A• at 40 °C rated value22.5 A• at 50 °C rated value19.9 A• at 60 °C rated value18.2 Aoperating voltage200 480 V• rated value200 480 V• at inside-delta circuit rated value200 480 V• relative negative tolerance of the operating voltage-15 %relative negative tolerance of the operating voltage at-15 %	• at 50 °C rated value	12 A
• at 40 °C rated value22.5 A• at 50 °C rated value19.9 A• at 60 °C rated value18.2 Aoperating voltage200 480 V• at inside-delta circuit rated value200 480 Vrelative negative tolerance of the operating voltage-15 %relative negative tolerance of the operating voltage at-15 %	• at 60 °C rated value	11 A
• at 40 °C rated value22.5 A• at 50 °C rated value19.9 A• at 60 °C rated value18.2 Aoperating voltage200 480 V• at inside-delta circuit rated value200 480 Vrelative negative tolerance of the operating voltage-15 %relative negative tolerance of the operating voltage at-15 %	operational current at inside-delta circuit	
• at 60 °C rated value18.2 Aoperating voltage• rated value200 480 V• at inside-delta circuit rated value200 480 Vrelative negative tolerance of the operating voltage-15 %relative negative tolerance of the operating voltage at10 %relative negative tolerance of the operating voltage at-15 %	• at 40 °C rated value	22.5 A
operating voltage 200 480 V • rated value 200 480 V • at inside-delta circuit rated value 200 480 V relative negative tolerance of the operating voltage -15 % relative negative tolerance of the operating voltage 10 % relative negative tolerance of the operating voltage at -15 %	• at 50 °C rated value	19.9 A
 rated value at inside-delta circuit rated value 200 480 V 200 480 V relative negative tolerance of the operating voltage relative positive tolerance of the operating voltage 10 % relative negative tolerance of the operating voltage at -15 % 	• at 60 °C rated value	18.2 A
 rated value at inside-delta circuit rated value 200 480 V 200 480 V relative negative tolerance of the operating voltage relative positive tolerance of the operating voltage 10 % relative negative tolerance of the operating voltage at -15 % 	operating voltage	
• at inside-delta circuit rated value200 480 Vrelative negative tolerance of the operating voltage-15 %relative negative tolerance of the operating voltage at-15 %		200 480 V
relative negative tolerance of the operating voltage-15 %relative positive tolerance of the operating voltage10 %relative negative tolerance of the operating voltage at-15 %	 at inside-delta circuit rated value 	
relative positive tolerance of the operating voltage 10 % relative negative tolerance of the operating voltage at -15 %		
relative negative tolerance of the operating voltage at -15 %		10 %
		-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	
 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 for inside delta circuit at rotary coding switch on 	17.3 A
 for inside-delta circuit at rotary coding switch on switch position 11 for inside-delta circuit at rotary coding switch on 	18.2 A 19.1 A
 for inside-deta circuit at rotary coding switch on switch position 12 for inside-delta circuit at rotary coding switch on 	19.1 A 19.9 A
 for inside-delta circuit at rotary coding switch on switch position 13 for inside-delta circuit at rotary coding switch on 	20.8 A
 for inside-delta circuit at rotary coding switch on switch position 14 for inside-delta circuit at rotary coding switch on 	20.8 A 21.7 A
 for inside-delta circuit at rotary coding switch on for inside-delta circuit at rotary coding switch on 	22.5 A
switch position 16	

- et incide delte eizenit minimum	9.5 A
at inside-delta circuit minimum	
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 %	240.14
• at 40 °C during startup	210 W
• 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	0.75 A
maximum	
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	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	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	+/- 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	2.1 109
type of electrical connection	
for main current circuit	aarow type terminale
for control circuit	screw-type terminals
	spring-loaded terminals
wire length for thermistor connection	F0 m
• 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 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 	2x (0.25 1.5 mm²)
 for control circuit finely stranded with core end processing 	2x (0.25 1.5 mm²)
 at AWG cables for control circuit solid 	2x (24 16)
 at 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 	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 terminals 	0.8 1.2 N·m
tightening torque [lbf·in]	
 for main contacts with screw-type terminals 	18 22 lbf·in
 for auxiliary and control contacts with screw-type terminals 	7 10.3 lbf·in
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 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 according to UL 	Siemens type: 3RV2742, max. 40 A or 3VA51, max. 40 A; Iq = 5 kA
 — usable for High Faults at 460/480 V according to UL 	Siemens type: 3RV2742, max. 30 A or 3VA51, max. 35 A; lq max = 65 kA
 — usable for Standard Faults at 460/480 V at inside-delta circuit according to UL 	Siemens type: 3RV2742, max. 40 A or 3VA51, max. 40 A; lq = 5 kA
 — usable for High Faults at 460/480 V at inside- delta circuit according to UL 	Siemens type: 3RV2742, max. 30 A or 3VA51, max. 35 A; lq max = 65 kA
 — usable for Standard Faults at 575/600 V according to UL 	Siemens type: 3RV2742, max. 40 A or 3VA51, max. 40 A; Iq = 5 kA
 — usable for Standard Faults at 575/600 V at inside-delta circuit according to UL 	Siemens type: 3RV2742, max. 40 A or 3VA51, max. 40 A; Iq = 5 kA
 of the fuse 	
 — usable for Standard Faults up to 575/600 V according to UL 	Type: Class RK5 / K5, max. 50 A; lq = 5 kA
 — usable for High Faults up to 575/600 V according to UL 	Type: Class J / L, max. 50 A; Iq = 100 kA
 — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class RK5 / K5, max. 50 A; Iq = 5 kA
 — usable for High Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 50 A; lq = 100 kA
operating power [hp] for 3-phase motors	
 at 200/208 V at 50 °C rated value 	2 hp
 at 220/230 V at 50 °C rated value 	3 hp
 at 460/480 V at 50 °C rated value 	7.5 hp
 at 200/208 V at inside-delta circuit at 50 °C rated value 	5 hp
 at 220/230 V at inside-delta circuit at 50 °C rated value 	5 hp
 at 460/480 V at inside-delta circuit at 50 °C rated value 	10 hp
contact rating of auxiliary contacts according to UL	R300-B300
Safety related data	
protection class IP on the front acc. to IEC 60529	IP20
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front
electromagnetic compatibility	in accordance with IEC 60947-4-2
Certificates/ approvals	
General Product Approval	EMC Declaration of Conformity
	COF 🔊 CE
Test Certificates Marine / Shipping	
Type Test Certific-	Hard Andrews
ates/Test Report	Register ()
ABS	LRS PRS Division
BUREAU VERITAS	

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=3RW5213-3TC04

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5213-3TC04

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5213-3TC04

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5213-3TC04&lang=en

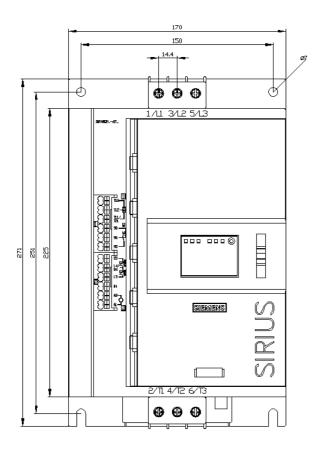
Characteristic: Tripping characteristics, I²t, Let-through current

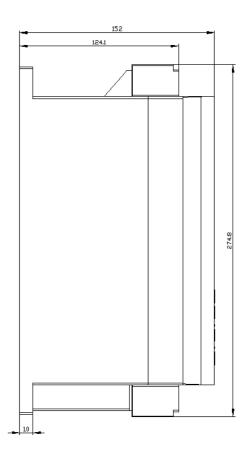
https://support.industry.siemens.com/cs/ww/en/ps/3RW5213-3TC04/char

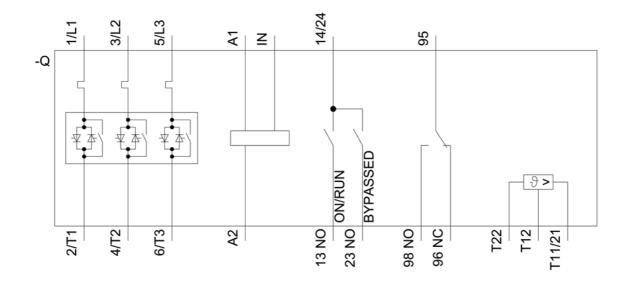
Characteristic: Installation altitude

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5213-3TC04&objecttype=14&gridview=view1 Simulation Tool for Soft Starters (STS)

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







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