SIEMENS

Data sheet 3RW5216-3AC04



SIRIUS soft starter 200-480 V 32 A, 24 V AC/DC spring-type 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 	3RV2032-4VA10; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V 	3RV2032-4VA10; Type of coordination 1, Iq = 10 kA, CLASS 10
 of circuit breaker usable at 400 V at inside-delta circuit 	3RV2032-4JA10; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V at inside-delta circuit 	3RV2032-4JA10; Type of coordination 1, Iq = 10 kA, CLASS 10
 of the gG fuse usable up to 690 V 	3NA3824-6; Type of coordination 1, Iq = 65 kA
 of the gG fuse usable at inside-delta circuit up to 500 V 	3NA3824-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	3NE1818-0: Type of coordination 2, Iq = 65 kA
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE8022-1; 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
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-down (soft stop)	Yes
Soft Torque	Yes
adjustable current limitation	Yes
pump ramp down intrinsic device grants at least	Yes
• intrinsic device protection	Yes
motor overload protection	Yes; Electronic motor overload protection
evaluation of thermistor motor protection	No V
• inside-delta circuit	Yes
• auto-RESET	Yes
manual RESET remete reset	Yes
remote reset communication function	Yes; By turning off the control supply voltage Yes
operating measured value display	Yes; Only in conjunction with special accessories
operating measured value display error logbook	Yes; Only in conjunction with special accessories
via software parameterizable	No
via software parameterizable via software configurable	Yes
PROFlenergy	Yes; in connection with the PROFINET Standard communication
T Korlenergy	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	32 A
at 50 °C rated value	28 A
at 60 °C rated value	26 A
operational current at inside-delta circuit	
at 40 °C rated value	55.4 A
at 50 °C rated value	49 A
at 60 °C rated value	45 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 	7.5 kW

at 220 V at incide delte dissett at 40 00	45 IAM
at 230 V at inside-delta circuit at 40 °C rated value t 400 V at 40 °C rated value	15 kW
at 400 V at 40 °C rated value	15 kW
at 400 V at inside-delta circuit at 40 °C rated value	22 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 	14 A
 at rotary coding switch on switch position 2 	15.2 A
 at rotary coding switch on switch position 3 	16.4 A
 at rotary coding switch on switch position 4 	17.6 A
 at rotary coding switch on switch position 5 	18.8 A
 at rotary coding switch on switch position 6 	20 A
 at rotary coding switch on switch position 7 	21.2 A
 at rotary coding switch on switch position 8 	22.4 A
 at rotary coding switch on switch position 9 	23.6 A
 at rotary coding switch on switch position 10 	24.8 A
 at rotary coding switch on switch position 11 	26 A
 at rotary coding switch on switch position 12 	27.2 A
 at rotary coding switch on switch position 13 	28.4 A
 at rotary coding switch on switch position 14 	29.6 A
 at rotary coding switch on switch position 15 	30.8 A
 at rotary coding switch on switch position 16 	32 A
minimum	14 A
adjustable motor current	
 for inside-delta circuit at rotary coding switch on switch position 1 	24.2 A
 for inside-delta circuit at rotary coding switch on switch position 2 	26.3 A
 for inside-delta circuit at rotary coding switch on switch position 3 	28.4 A
 for inside-delta circuit at rotary coding switch on switch position 4 	30.5 A
 for inside-delta circuit at rotary coding switch on switch position 5 	32.6 A
 for inside-delta circuit at rotary coding switch on switch position 6 	34.6 A
 for inside-delta circuit at rotary coding switch on switch position 7 	36.7 A
 for inside-delta circuit at rotary coding switch on switch position 8 	38.8 A
 for inside-delta circuit at rotary coding switch on switch position 9 	40.9 A
 for inside-delta circuit at rotary coding switch on switch position 10 	43 A
 for inside-delta circuit at rotary coding switch on switch position 11 	45 A
 for inside-delta circuit at rotary coding switch on switch position 12 	47.1 A
 for inside-delta circuit at rotary coding switch on switch position 13 	49.2 A
for inside-delta circuit at rotary coding switch on switch position 14	51.3 A
for inside-delta circuit at rotary coding switch on switch position 15 for inside delta circuit at rotary coding switch on	53.3 A
for inside-delta circuit at rotary coding switch on switch position 16 the delta circuit reliables	55.4 A
at inside-delta circuit minimum	24.2 A
minimum load [%]	15 %; Relative to smallest settable le
power loss [W] for rated value of the current at AC	22.14/
• at 40 °C after startup	22 W
• at 50 °C after startup	21 W
at 60 °C after startup	20 W

power loss [W] at AC at current limitation 350 %	
at 40 °C during startup	531 W
at 50 °C during startup	449 W
at 60 °C during startup	395 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	10 %
voltage frequency	
control supply voltage	0414
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	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	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	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
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	2.3 kg
Connections/ Terminals	
type of electrical connection	
 for main current circuit 	screw-type terminals
for control circuit	spring-loaded 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 at AWG cables for main current circuit solid 	2x (1.0 2.5 mm²), 2x (2.5 6.0 mm²)
type of connectable conductor cross-sections	2x (16 12), 2x (14 8)
• 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 main contacts with screw-type for auxiliary and control contacts with screw-type	2 2.5 N·III 0.8 1.2 N·m
terminals	0.0 1.2 N III
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	05 100 °0. Disease share a description of the continue of the
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. 70 A or 3VA51, max. 100 A; Iq = 5 kA
 usable for High Faults at 460/480 V according to UL 	Siemens type: 3RV2742, max.40 A or 3VA51, max. 60 A; Iq max = 65 kA
 usable for Standard Faults at 460/480 V at inside-delta circuit according to UL 	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; Iq = 5 kA
 usable for High Faults at 460/480 V at insidedelta circuit according to UL 	Siemens type: 3VA51, max. 60 A; Iq max = 65 kA
 usable for Standard Faults at 575/600 V according to UL 	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; lq = 5 kA

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

Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; lq = 5 kA

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

Type: Class RK5 / K5, max. 125 A; Iq = 5 kA

Type: Class J / L, max. 125 A; Iq = 100 kA

Type: Class RK5 / K5, max. 125 A; Iq = 5 kA

Type: Class J / L, max. 125 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 value

7.5 hp

10 hp

20 hp

15 hp

15 hp

30 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	
Т	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=3RW5216-3AC04

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5216-3AC04

 ${\bf Service \& Support\ (Manuals,\ Certificates,\ Characteristics,\ FAQs,...)}$

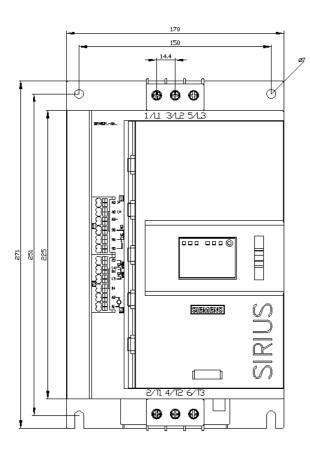
https://support.industry.siemens.com/cs/ww/en/ps/3RW5216-3AC04

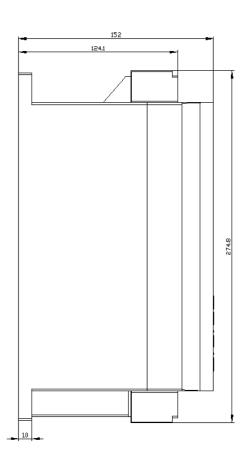
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax de.aspx?mlfb=3RW5216-3AC04&lang=en

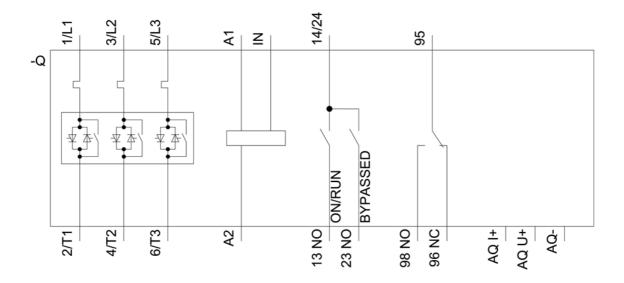
Characteristic: Tripping characteristics, I2t, Let-through current

Characteristic: Installation altitude

Simulation Tool for Soft Starters (STS)
https://support.industry.siemens.com/cs/ww/en/view/101494917







last modified: 8/10/2021 🖸