SIEMENS

product brand name

Data sheet 3RW5216-1AC04

SIRIUS



SIRIUS soft starter 200-480 V 32 A, 24 V AC/DC Screw terminals Analog output





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
Seneral technical data	
starting voltage [%]	30 100 %
stopping voltage [%]	50 %; non-adjustable
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	
HMI-High Feature	No
• is supported HMI-Standard	Yes
is supported HMI-High Feature	Yes
product feature integrated bypass contact system	Yes
number of controlled phases	3
buffering time in the event of power failure	

- for made assument -to-set	100
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 protective separation	
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
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1 Dibutylbis(pentane-2,4-dionato-O,O')tin - 22673-19-4 Diboron trioxide - 1303-86-2
Weight	2.3 kg
product function	
• ramp-up (soft starting)	Yes
• ramp-down (soft stop)	Yes
Soft Torque	Yes
adjustable current limitation	Yes
pump ramp down	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	166, 7 20 IIIA (deladity / 0 10 V (parameterizable with high reature fivil)
operational current	22.4
• at 40 °C rated value	32 A
• at 50 °C rated value	28.4 A
at 60 °C rated value	26 A
operational current at inside-delta circuit	55.4.0
• 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	10 %

7.5 kW
15 kW
15 kW
22 kW
50 Hz
60 Hz
-10 %
10 %
14 A
15.2 A
16.4 A
17.6 A
18.8 A
20 A
21.2 A
22.4 A
23.6 A
24.8 A
24.6 A
27.2 A
28.4 A
29.6 A
30.8 A
32 A
14 A
24.2 A
26.3 A
28.4 A
30.5 A
32.6 A
34.6 A
36.7 A 38.8 A
40.9 A
43 A
45 A
47.1 A
49.2 A
51.3 A
53.3 A
55.4 A
24.2 A
15 %; Relative to smallest settable le
22 W

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Imputs/ Outputs number of digital inputs number of digital outputs • not parameterizable 2 digital output version number of analog outputs • at AC-15 at 250 V rated value • at DC-13 at 24 V rated value • 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 height 275 mm width depth 152 mm required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • at the side verifyed so from depth without packaging 2.3 kg Connections/ Terminals	design of short-circuit protection for control circuit	breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of
number of digital outputs ● not parameterizable digital output version number of analog outputs ■ at AC-15 at 250 V rated value ■ at DC-13 at 24 V rated value 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 required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • at the side weight without packaging 2.3 kg Connections/ Terminals	Inputs/ Outputs	
number of digital outputs ● not parameterizable 2 digital output version 2 normally-open contacts (NO) / 1 changeover contact (CO) number of analog outputs ■ at AC-15 at 250 V rated value ■ 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 required spacing with side-by-side mounting ● forwards ● backwards ● backwards ● upwards ● downwards ● downwards ● at the side weight without packaging 2.3 kg Connections/ Terminals		1
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		3
number of analog outputs switching capacity current of the relay outputs at AC-15 at 250 V rated value 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 required spacing with side-by-side mounting forwards backwards 0 mm upwards downwards downwards the side 5 mm weight without packaging 2.3 kg Connections/ Terminals	not parameterizable	2
switching capacity current of the relay outputs • at AC-15 at 250 V rated value • at DC-13 at 24 V rated value 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 • backwards • upwards • downwards • downwards • at the side very fixed of the relay outputs 10 mm 100 mm 2.3 kg Connections/ Terminals	digital output version	2 normally-open contacts (NO) / 1 changeover contact (CO)
at AC-15 at 250 V rated value at DC-13 at 24 V rated value 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 required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • at the side weight without packaging Connections/ Terminals	number of analog outputs	1
at DC-13 at 24 V rated value 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 • backwards • upwards • downwards • downwards • at the side side Weight without packaging 2.3 kg Connections/ Terminals	switching capacity current of the relay outputs	
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 • backwards • backwards • upwards • downwards • at the side to mm weight without packaging 2.3 kg Connections/ Terminals	• at AC-15 at 250 V rated value	3 A
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 required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • at the side weight without packaging Connections/ Terminals	0.000 0.000 0.000	1 A
#/- 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	· · · · · · · · · · · · · · · · · · ·	
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	mounting position	
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	fastening method	screw fixing
depth 152 mm required spacing with side-by-side mounting 10 mm • 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	height	275 mm
required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • at the side weight without packaging Connections/ Terminals		
 forwards backwards upwards downwards at the side mm 5 mm weight without packaging 2.3 kg Connections/ Terminals	·	152 mm
backwards upwards upwards downwards at the side weight without packaging Connections/ Terminals 0 mm 100 mm 75 mm 5 mm 2.3 kg		40
 upwards downwards at the side 5 mm weight without packaging 2.3 kg Connections/ Terminals		
downwards at the side 5 mm weight without packaging 2.3 kg Connections/ Terminals		
• at the side 5 mm weight without packaging 2.3 kg Connections/ Terminals	·	
weight without packaging 2.3 kg Connections/ Terminals		
Connections/ Terminals		
		2.3 Kg
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)
 for 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 processing 	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
 for 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 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)
Environmental footprint	
global warming potential [CO2 eq] total	185 kg
global warming potential [CO2 eq] during manufacturing	37.2 kg
global warming potential [CO2 eq] during sales	0.66 kg
global warming potential [CO2 eq] during operation	152 kg
global warming potential [CO2 eq] after end of life	-4.19 kg
Siemens Eco Profile (SEP)	Siemens EcoTech
Electromagnetic compatibility	
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
PROFIBUS	Yes
UL/CSA ratings	100
manufacturer's article number	
of circuit breaker usable for Standard Faults	
	Signang tung: 3D\/2742 may 70 A or 2\/A54 may 400 A La = 5 LA
— at 460/480 V according to UL	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; Iq = 5 kA
— 60/480 V according to UL	Siemens type: 3RV2742, max.40 A or 3VA51, max. 60 A; Iq max = 65 kA
— 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
— 60/480 V at inside-delta circuit according to UL	Siemens type: 3VA51, max. 60 A; Iq max = 65 kA
— at 575/600 V according to UL	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; Iq = 5 kA
— at 575/600 V at inside-delta circuit according to UL	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; Iq = 5 kA
• of the fuse	T 01 PV-1V- 1
 usable for Standard Faults 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 - usable for High Faults up to 575/600 V according to UL - usable for Standard Faults at inside-delta circuit up Type: Class RK5 / K5, max. 125 A; Iq = 5 kA to 575/600 V according to UL — usable for High Faults at inside-delta circuit up to Type: Class J / L, max. 125 A; Iq = 100 kA 575/600 V according to UL operating power [hp] for 3-phase motors • at 200/208 V at 50 °C rated value 7.5 hp • at 220/230 V at 50 °C rated value 10 hp at 460/480 V at 50 °C rated value 20 hp • at 200/208 V at inside-delta circuit at 50 °C rated value 15 hp at 220/230 V at inside-delta circuit at 50 °C rated value 15 hp • at 460/480 V at inside-delta circuit at 50 °C rated value 30 hp contact rating of auxiliary contacts according to UL R300-B300 **Electrical Safety** protection class IP on the front according to IEC 60529 IP20 touch protection on the front according to IEC 60529 finger-safe, for vertical contact from the front Approvals Certificates

General Product Approval















EMV Test Certificates

Maritime application

<u>KC</u>

Type Test Certificates/Test Report









other

Environment

Confirmation





Environmental Confirmations

Further information

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

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=3RW5216-1AC04

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5216-1AC04

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

 $\underline{https://support.industry.siemens.com/cs/ww/en/ps/3RW5216-1AC04}$

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5216-1AC04&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

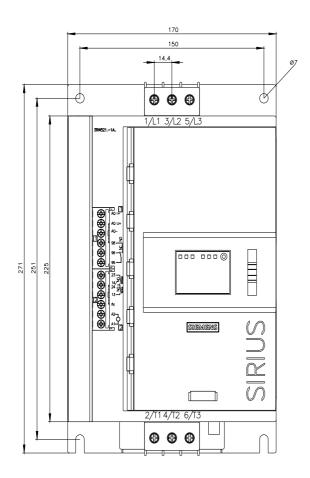
https://support.industry.siemens.com/cs/ww/en/ps/3RW5216-1AC04/char

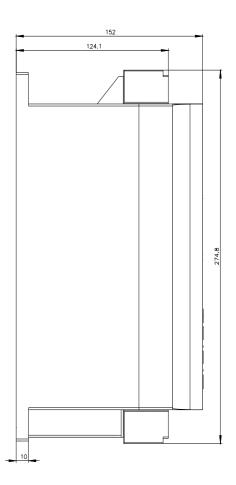
Characteristic: Installation altitude

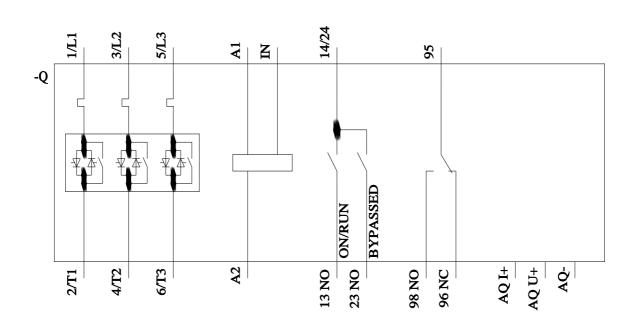
 $\underline{\text{http://www.automation.siemens.com/bilddb/index.aspx?view=Search\&mlfb=3RW5216-1AC04\&objecttype=14\&gridview=view1}$

Simulation Tool for Soft Starters (STS)

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







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