SIEMENS

Data sheet 3RW5216-1AC05



SIRIUS soft starter 200-600 V 32 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 	3RV2032-4VA10; 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 %; 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 main current circuit • for control circuit • for white presentance rated value • fix y bubbeking voilage of the thyristor maximum • service factor • surge voitage resistance rated value • between man and sucklary circuit • between sucklary circuit • between sucklary circuit • between sucklary circuit • control circuit • reference code according to IEC 60947-4-2 • AC 583 • Carrier forms 12 g / 51 ms with potential contact lifting • viss sort function • ramp-up (soft starting) • viss • ramp-up (soft starting) • viss • soft forque • adjustable current limitation • viss • soft orque • evaluation of thermistor motor protection • viss ordinate circuit • evaluation of thermistor motor protection • viss ordinate circuit • removable terminal for control circuit • viss ordinate protection • viss ordinat	trin class	CLASS 10A (default) / 10E / 20E: 200 to IEC 60047 4.2
• for main current circuit • for control circuit • for control circuit • for control circuit • for pollution Segree of pollution Segree of pollut	trip class	CLASS 10A (default) / 10E / 20E; acc. to IEC 60947-4-2
100 ms	•	100 mg
Incubation voltage rated value degree of pollution 3, acc. to IEC 60047-4-2 1 500 V 2 500 V		
Impulse voltage rated value SkV Skow		
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1		
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maximum permissible voltage for safe isolation 6 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 vibration resistance 26 58a verence code according to IEC 60947-4-2 AC 58a vibration Prohibitance (Date) 92/15/2018 product function 4 ramp-up (soft starting) Yes * ramp-up (soft starting) 4 yes * soft Torque 4 yes * adjustable current limitation 4 yes * adjustable current limitation 4 yes * intrinsic device protection 4 yes; Electronic motor overload protection * word reversal protection 4 yes; Electronic motor overload protection * evaluation of thermistor motor protection 10 yes; Electronic motor overload protection * word resided across the starting of the control supply voltage 4 yes * amanual RESET 4 yes * remote reset 4 yes; Unity or conjunction with special accessories * error logbook 4 yes; Only in conjunction with special accessories * PROFinenery 4 yes		
e 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 63a reference code according to IEC 61346-2 Q Substance Prohibitance (Date) 902/15/2018 product function Yes * ramp-down (soft storing) Yes * adjustable current limitation Yes * pump ramp down Yes * intrinsic device protection Yes; Electronic motor overload protection * evaluation of thermistor motor protection Yes; Electronic motor overload protection * evaluation of thermistor motor protection Yes * auto-RESET Yes * emole reset Yes; By turning off the control supply voltage * error logbook Yes; By turning off the control supply voltage * error logbook Yes; Only in conjunction with special accessories * error logbook Yes; Only in conjunction with special accessories * error logbook Yes; in connection with the PROFINET Standard communication module * firmware update <td< th=""><th></th><th>6 KV</th></td<>		6 KV
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relative positive tolerance of the operating voltage at inside-delta circuit 10 %		
relative positive tolerance of the operating voltage at inside-delta circuit		-15 %
operating power for 3-phase motors	relative positive tolerance of the operating voltage at	10 %
	operating power for 3-phase motors	

-t 000 V -t 40 °Ct-dl	7.5.134
• at 230 V at 40 °C rated value	7.5 kW
• at 230 V at inside-delta circuit 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
at 500 V at 40 °C rated value	18.5 kW
at 500 V at inside-delta circuit at 40 °C rated value	30 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
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for inside-delta circuit at rotary coding switch on switch position 14 for inside-delta circuit at rotary coding switch on	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 55.4 A
switch position 16 • at inside-delta circuit minimum	24.2 A
minimum load [%]	15 %; Relative to smallest settable le
	10 70, 1 totative to sitiation settable le
power loss [W] for rated value of the current at AC	

 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	7.0.20
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	20 %
voltage at AC at 50 Hz	/·
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	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 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	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 processing.	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
processing • at AWG cables for control circuit solid	1x (20 12), 2x (20 14)
wire length	14 (20 12), 24 (20 17)
between soft starter and motor maximum	800 m
at the digital inputs at AC maximum	100 m
at the digital inputs at AC maximum 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	5 500 m, Detailing as of 1600 m, see calalog
during operation	-25 +60 °C; Please observe derating at temperatures of 40 °C or
- daming operation	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	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; Iq = 5 kA

- usable for Standard Faults at 575/600 V at Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; Iq = 5 kA inside-delta circuit according to UL of the fuse usable for Standard Faults up to 575/600 V Type: Class RK5 / K5, max. 125 A; Iq = 5 kA according to UL usable for High Faults up to 575/600 V Type: Class J / L, max. 125 A; Iq = 100 kA according to UL - usable for Standard Faults at inside-delta Type: Class RK5 / K5, max. 125 A; Iq = 5 kA circuit up to 575/600 V according to UL - usable for High Faults at inside-delta circuit up Type: Class J / L, max. 125 A; Iq = 100 kA to 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 575/600 V at 50 °C rated value 25 hp • at 200/208 V at inside-delta circuit at 50 °C rated 15 hp • at 220/230 V at inside-delta circuit at 50 °C rated 15 hp value • at 460/480 V at inside-delta circuit at 50 °C rated 30 hp value • at 575/600 V at inside-delta circuit at 50 °C rated 40 hp value contact rating of auxiliary contacts according to UL R300-B300 Safety related data IP20 protection class IP on the front according to IEC 60529 touch protection on the front according to IEC 60529 finger-safe, for vertical contact from the front in accordance with IEC 60947-4-2 electromagnetic compatibility



Certificates/ approvals

General Product Approval



Confirmation







EMC

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=3RW5216-1AC05

Cax online generator

 $\underline{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RW5216-1AC05$

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RW5216-1AC05

Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RW5216-1AC05/char

Characteristic: Installation altitude

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5216-1AC05&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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

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