SIEMENS

Data sheet 3RW5516-3HA05



SIRIUS soft starter 200-600 V 32 A, 24 V AC/DC spring-type terminals

product brand name product category product designation product type designation manufacturer's article number

- of high feature HMI module usable
- of communication module PROFINET standard
 usable
- of communication module PROFINET high-feature usable
- of communication module PROFIBUS usable
- of communication module Modbus TCP usable
- of communication module Modbus RTU usable
- of communication module Ethernet/IP
- of circuit breaker usable at 400 V
- of circuit breaker usable at 500 V
- of circuit breaker usable at 400 V at inside-delta
- of circuit breaker usable at 500 V at inside-delta circuit
- of the gG fuse usable up to 690 V
- of the gG fuse usable at inside-delta circuit up to 500 V
- \bullet of full range R fuse link for semiconductor protection usable up to 690 V
- \bullet of back-up R fuse link for semiconductor protection usable up to 690 V

SIRIUS

Hybrid switching devices

Soft starter

3RW55

3RW5980-0HF00

3RW5980-0CS00

3RW5950-0CH00

3RW5980-0CP00

3RW5980-0CT00

3RW5980-0CR00

3RW5980-0CE00

3RV2032-4VA10; Type of coordination 1, Iq = 65 kA, CLASS 10

3RV2032-4VA10; Type of coordination 1, Iq = 10 kA, CLASS 10

3RV2032-4JA10; Type of coordination 1, Iq = 65 kA, CLASS 10

3RV2032-4JA10; Type of coordination 1, Iq = 10 kA, CLASS 10

3NA3824-6; Type of coordination 1, Iq = 65 kA

3NA3824-6; Type of coordination 1, Iq = 65 kA

3NE1818-0; Type of coordination 2, Iq = 65 kA

3NE8022-1; Type of coordination 2, Iq = 65 kA

General technical data

starting voltage [%]

stopping voltage [%]

start-up ramp time of soft starter

ramp-down time of soft starter

start torque [%]

stopping torque [%]

torque limitation [%]

current limiting value [%] adjustable breakaway voltage [%] adjustable

breakaway time adjustable number of parameter sets

certificate of suitability

- CE marking
- UL approval
- CSA approval

20 ... 100 %

50 %; non-adjustable

0 ... 360 s

0 ... 360 s

10 ... 100 %

10 ... 100 %

20 ... 200 %

125 ... 800 %

40 ... 100 %

 $0 \, ... \, 2 \, s$

3

Yes

Yes

Yes

product component • HMI-High Feature Yes • is supported HMI-High Feature Yes product feature integrated bypass contact system Yes number of controlled phases 3 CLASS 10A / 10E (default) / 20E / 30E; acc. to IEC 60947-4-2 trip class current unbalance limiting value [%] 10 ... 60 % ground-fault monitoring limiting value [%] 10 ... 95 % buffering time in the event of power failure • for main current circuit 100 ms · for control circuit 100 ms 0 ... 255 s idle time adjustable insulation voltage rated value 600 V degree of pollution 3, acc. to IEC 60947-4-2 impulse voltage rated value blocking voltage of the thyristor maximum 1 600 V 1.15 service factor surge voltage resistance rated value 6 kV maximum permissible voltage for safe isolation • between main and auxiliary circuit 600 V; does not apply for thermistor connection shock resistance 15 g / 11 ms, from 6 g / 11 ms with potential contact lifting vibration resistance 15 mm up to 6 Hz; 2 g up to 500 Hz recovery time after overload trip adjustable 60 ... 1 800 s AC 53a utilization category according to IEC 60947-4-2 reference code according to IEC 81346-2 **Substance Prohibitance (Date)** 02/15/2018 product function Yes • ramp-up (soft starting) ramp-down (soft stop) Yes • breakaway pulse Yes • adjustable current limitation Yes • creep speed in both directions of rotation Yes • pump ramp down Yes Yes DC braking motor heating Yes slave pointer function Yes • trace function Yes • intrinsic device protection Yes Yes; Full motor protection (thermistor motor protection and electronic · motor overload protection motor overload protection) / When using the motor overload protection according to ATEX, an upstream contactor is required in inside-delta circuit. • evaluation of thermistor motor protection Yes; Type A PTC or Klixon / Thermoclick • inside-delta circuit Yes auto-RESET Yes manual RESET Yes Yes remote reset • communication function Yes • operating measured value display Yes • event list Yes error logbook Yes • via software parameterizable Yes Yes • via software configurable screw terminal Nο • spring-loaded terminal PROFlenergy Yes; in connection with the PROFINET Standard and PROFINET High-Feature communication modules • firmware update Yes • removable terminal for control circuit Yes voltage ramp Yes torque control Yes combined braking analog output Yes; 4 ... 20 mA (default) / 0 ... 10 V programmable control inputs/outputs Yes · condition monitoring Yes

	V
automatic parameterisation	Yes
application wizards	Yes
alternative run-down	Yes
emergency operation mode	Yes
reversing operation	Yes
soft starting at heavy starting conditions	Yes
Power Electronics	
operational current	
at 40 °C rated value	32 A
• at 40 °C rated value minimum	6.5 A
at 50 °C rated value	28.4 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	000 000 1/
rated value	200 600 V
at inside-delta circuit rated value	200 600 V
relative negative televance of the operating voltage	-15 %
relative positive telerance 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 %
inside-delta circuit	
operating power for 3-phase motors	7.5 kW
 at 230 V at 40 °C rated value at 230 V at inside-delta circuit at 40 °C rated value 	7.5 kW
at 400 V at 40 °C rated value	15 kW
at 400 V at 40 C rated value 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 40 C rated value 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 %
minimum load [%]	10 %; Relative to set le
power loss [W] for rated value of the current at AC	
at 40 °C after startup	10 W
at 50 °C after startup	9 W
at 60 °C after startup	8 W
power loss [W] at AC at current limitation 350 %	
at 40 °C during startup	519 W
at 50 °C during startup	437 W
at 60 °C during startup	386 W
type of the motor protection	Electronic, tripping in the event of thermal overload of the motor
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	-10 %
voltage frequency	10.0/
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	-20 %
voltage at DC	
relative positive tolerance of the control supply voltage at DC	20 %
control supply current in standby mode rated value	420 mA
	1
holding current in bypass operation rated value	820 mA
inrush current by closing the bypass contacts	0.91 A
maximum inrush current peak at application of control supply voltage maximum	7.5 A
duration of inrush current peak at application of control	20 ms
supply voltage	
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	The state of the s
number of digital inputs	4
parameterizable	4
number of digital outputs	4
	3
number of digital outputs parameterizable	
number of digital outputs not parameterizable	1
digital output version	3 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	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)
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
•	75 mm
• downwards	
• at the side	5 mm
weight without packaging	2.6 kg
Connections/ Terminals	
Connections/ Terminals type of electrical connection	
Connections/ Terminals type of electrical connection • for main current circuit	screw-type terminals
Connections/ Terminals type of electrical connection • for main current circuit • for control circuit	
Connections/ Terminals type of electrical connection	screw-type terminals spring-loaded terminals
type of electrical connection	screw-type terminals spring-loaded terminals 50 m
type of electrical connection	screw-type terminals spring-loaded terminals 50 m 150 m
type of electrical connection	screw-type terminals spring-loaded terminals 50 m
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type of electrical connection	screw-type terminals spring-loaded terminals 50 m 150 m 250 m
type of electrical connection	screw-type terminals spring-loaded terminals 50 m 150 m 250 m 2x (1.0 2.5 mm²), 2x (2.5 10 mm²)
type of electrical connection	screw-type terminals spring-loaded terminals 50 m 150 m 250 m 2x (1.0 2.5 mm²), 2x (2.5 10 mm²) 2x (1.0 2.5 mm²), 2x (2.5 6.0 mm²)
type of electrical connection	screw-type terminals spring-loaded terminals 50 m 150 m 250 m 2x (1.0 2.5 mm²), 2x (2.5 10 mm²) 2x (1.0 2.5 mm²), 2x (2.5 6.0 mm²) 2x (16 12), 2x (14 8)
type of electrical connection	screw-type terminals spring-loaded terminals 50 m 150 m 250 m 2x (1.0 2.5 mm²), 2x (2.5 10 mm²) 2x (1.0 2.5 mm²), 2x (2.5 6.0 mm²)
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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 	-25 +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
PROFINET high-feature	No
• EtherNet/IP	No
Modbus RTU	No
Modbus TCP Results	Yes
PROFIBUS	Yes
UL/CSA ratings	
manufacturer's article number	
of circuit breaker usable for Standard Faults at 460/480 V	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; lq = 5 kA
according to UL — usable for High Faults at 460/480 V according	Siemens type: 3RV2742, max.40 A or 3VA51, max. 60 A; Iq max = 65
to UL — usable for Standard Faults at 460/480 V at	kA Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; Iq = 5 kA
inside-delta circuit according to UL — usable for High Faults at 460/480 V at inside- delta 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 High Faults at 575/600 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 at inside-delta circuit according to UL	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; Iq = 5 kA
of the fuse— usable for Standard Faults up to 575/600 V	Type: Class RK5 / K5, max. 125 A; lq = 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; lq = 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; lq = 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 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
 at 575/600 V at inside-delta circuit at 50 °C rated value 	40 hp
contact rating of auxiliary contacts according to UL	R300-B300
Safety related data	
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529 electromagnetic compatibility	finger-safe, for vertical contact from the front acc. to IEC 60947-4-2

ATEX

certificate of suitability

- ATEX
- IECEx
- according to ATEX directive 2014/34/EU

type of protection according to ATEX directive 2014/34/EU

hardware fault tolerance according to IEC 61508 relating to ATEX

Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX

Yes

Yes

BVS 18 ATEX F 003 X

II (2)G [Ex eb Gb] [Ex db Gb] [Ex pxb Gb], II (2)D [Ex tb Db] [Ex pxb Db], I (M2) [Ex db Mb]

0

SIL1

Certificates/ approvals

General Product Approval

EMC





Confirmation







For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping







Type Test Certificates/Test Report





Marine / Shipping

other





Confirmation

Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3RW5516-3HA05

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5516-3HA05

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5516-3HA05

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5516-3HA05&lang=en

 $\label{lem:characteristic:} \textbf{Characteristic: Tripping characteristics, } \textbf{I}^{2}\textbf{t, Let-through current}$

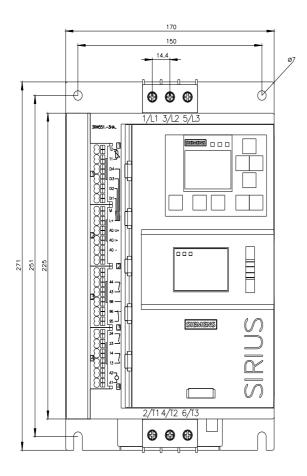
https://support.industry.siemens.com/cs/ww/en/ps/3RW5516-3HA05/char

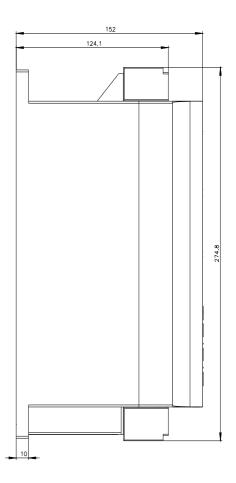
Characteristic: Installation altitude

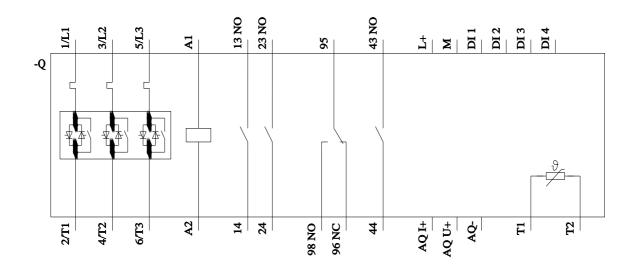
 $\underline{\text{http://www.automation.siemens.com/bilddb/index.aspx?view=Search\&mlfb=3RW5516-3HA05\&objecttype=14\&gridview=view1}$

Simulation Tool for Soft Starters (STS)

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







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