SIEMENS



Data sheet 3RW5545-2HA06



SIRIUS soft starter 200-690 V 315 A, 24 V AC/DC spring-type terminals

product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW55
manufacturer's article number	
 of high feature HMI module usable 	3RW5980-0HF00
 of communication module PROFINET standard usable 	3RW5980-0CS00
 of communication module PROFINET high-feature usable 	3RW5950-0CH00
 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 	3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V 	3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 400 V at inside-delta circuit 	3VA2580-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V at inside-delta circuit 	3VA2580-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of the gG fuse usable up to 690 V 	2x3NA3365-6; Type of coordination 1, Iq = 65 kA
 of the gG fuse usable at inside-delta circuit up to 500 V 	2x3NA3365-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	3NE1334-2: Type of coordination 2, Iq = 65 kA

usable up to 090 v	
General technical data	
starting voltage [%]	20 100 %
stopping voltage [%]	50 %; non-adjustable
start-up ramp time of soft starter	0 360 s
ramp-down time of soft starter	0 360 s
start torque [%]	10 100 %
stopping torque [%]	10 100 %
torque limitation [%]	20 200 %
current limiting value [%] adjustable	125 800 %
breakaway voltage [%] adjustable	40 100 %
breakaway time adjustable	0 2 s
number of parameter sets	3
accuracy class according to IEC 61557-12	5 %
certificate of suitability	
CE marking	Yes
 UL approval 	Yes

CSA approval	Yes
product component	ngobutgoibl
HMI-High Feature	Yes dientudong
is supported HMI-High Feature	Yes
product feature integrated bypass contact system	Yes
number of controlled phases	3
trip class	CLASS 10A / 10E (default) / 20E / 30E; acc. to IEC 60947-4-2
current unbalance limiting value [%]	10 60 %
ground-fault monitoring limiting value [%]	10 95 %
buffering time in the event of power failure	10 93 76
• for main current circuit	100 ms
for control circuit	100 ms
idle time adjustable	0 255 s
insulation voltage rated value	690 V
degree of pollution	3, acc. to IEC 60947-4-2
impulse voltage rated value	8 kV
blocking voltage of the thyristor maximum	1 800 V
service factor	1.15
	8 kV
surge voltage resistance rated value maximum permissible voltage for safe isolation	O IV
	600 V: does not apply for thermister connection
between main and auxiliary circuit shock resistance	690 V; does not apply for thermistor connection 15 g / 11 ms, from 6 g / 11 ms with potential contact lifting
vibration resistance	15 g / 11 ms, from 6 g / 11 ms with potential contact litting
	60 1 800 s
recovery time after overload trip adjustable	AC 53a
utilization category according to IEC 60947-4-2 reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	02/15/2018
product function	02/10/2010
• ramp-up (soft starting)	Yes
• ramp-down (soft stop)	Yes
breakaway pulse	Yes
adjustable current limitation	Yes
creep speed in both directions of rotation	Yes
pump ramp down	Yes
DC braking	Yes
motor heating	Yes
slave pointer function	Yes
trace function	Yes
intrinsic device protection	Yes
motor overload protection	Yes; Full motor protection (thermistor motor protection and electronic
- Motor overload proteotion	motor overload protection)
 evaluation of thermistor motor protection 	Yes; Type A PTC or Klixon / Thermoclick
inside-delta circuit	Yes; Only up to 600 V operating voltage
auto-RESET	Yes
• manual RESET	Yes
• remote reset	Yes
communication function	Yes
operating measured value display	Yes
• event list	Yes
error logbook	Yes
via software parameterizable	Yes
via software configurable	Yes
screw terminal	No
spring-loaded terminal	Yes
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	Yes

e analog output programmable control inputsoutputs e condition monitoring e authoristic parameterisation e application wazards e and remaitive run-down e mergency operation mode reversing operation e so distaining at heavy starting conditions Power Electronics 8 at 40 °C rated value and so of the control supply voltage e rated value for a power for 3-phase motors e at 60 °C rated value and so of the operating voltage at relative positive tolerance of the operating voltage at all voltage delications e at 200 °C rated value e at 200 °C value e at 200 °C value e at 400 °C rated value e at 200 °C value e at 300 °C value		
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emergency operation mode	 application wizards 	Yes
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Soit starting at heavy starting conditions Power Electronics operational current	 emergency operation mode 	Yes
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voltage at AC at 50 Hz relative positive tolerance of the control supply voltage at AC at 50 Hz relative negative tolerance of the control supply -20 %		
voltage at AC at 50 Hz relative negative tolerance of the control supply -20 %		
		20 %
		-20 %

relative positive tolerance of the control supply voltage at AC at 60 Hz	50 60 Hz dientudong
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	440 mA
holding current in bypass operation rated value	720 mA
locked-rotor current at close of bypass contact maximum	6.7 A
inrush current peak at application of control supply voltage maximum	7.5 A
duration of inrush current peak at application of control supply voltage	20 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	4
 parameterizable 	4
number of digital outputs	4
number of digital outputs parameterizable	3
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	1
• at AC-15 at 250 V rated value	3 A
at DC-13 at 250 V rated value at DC-13 at 24 V rated value	1 A
	T A
Installation/ mounting/ dimensions	N. (1) 1 (1)
mounting position	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)
fastening method	screw fixing
height	393 mm
width	210 mm
depth	203 mm
required spacing with side-by-side mounting	40
• forwards	10 mm
• backwards	0 mm
• upwards	100 mm
• downwards	75 mm
• at the side	5 mm
weight without packaging	10.2 kg
Connections/ Terminals	
type of electrical connection	
for main current circuit	busbar connection
for control circuit	spring-loaded terminals
width of connection bar maximum	45 mm
wire length for thermistor connection	
 with conductor cross-section = 0.5 mm² maximum 	50 m
 with conductor cross-section = 1.5 mm² maximum 	150 m
• with conductor cross-section = 2.5 mm² maximum	250 m
type of connectable conductor cross-sections	
for DIN cable lug for main contacts stranded	2x (50 240 mm²)
for DIN cable lug for main contacts finely stranded	2x (70 240 mm²)
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 mm ² 2x (0.25 1.5 mm ²) dientudong
 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 DC maximum	1 000 m
tightening torque	
 for main contacts with screw-type terminals 	14 24 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	124 210 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	2 000 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)
EMC emitted interference	acc. to IEC 60947-4-2: Class A
Communication/ Protocol	
communication module is supported	
PROFINET standard	Yes
PROFINET high-feature Fthe-Net/IR	Yes
EtherNet/IP Modbus BTI I	Yes
Modbus RTUModbus TCP	Yes 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: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 18 kA
 usable for High Faults at 460/480 V according to UL 	Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq max = 65 kA
 usable for Standard Faults at 460/480 V at inside-delta circuit according to UL 	Siemens type: 3VA54, max. 600 A; Iq = 18 kA
 usable for High Faults at 460/480 V at inside- delta circuit according to UL 	Siemens type: 3VA54, max. 600 A; Iq max = 65 kA
 usable for Standard Faults at 575/600 V according to UL 	Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 18 kA
 usable for High Faults at 575/600 V at inside- delta circuit according to UL 	Siemens type: 3VA54, max. 600 A; Iq max = 65 kA
 usable for Standard Faults at 575/600 V at inside-delta circuit according to UL 	Siemens type: 3VA54, max. 600 A; Iq = 18 kA
• of the fuse	
 usable for Standard Faults up to 575/600 V according to UL 	Type: Class J / L, max. 1000 A; Iq = 18 kA
 usable for High Faults up to 575/600 V according to UL 	Type: Class J / L, max. 1000 A; Iq = 100 kA
 usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 1000 A; Iq = 18 kA
3	

operating power [hp] for 3-phase motors	75 hp 100 hp dientudong
 at 200/208 V at 50 °C rated value 	75 hp
 at 220/230 V at 50 °C rated value 	100 hp
 at 460/480 V at 50 °C rated value 	200 hp
 at 575/600 V at 50 °C rated value 	250 hp
 at 200/208 V at inside-delta circuit at 50 °C rated value 	150 hp
 at 220/230 V at inside-delta circuit at 50 °C rated value 	200 hp
 at 460/480 V at inside-delta circuit at 50 °C rated value 	400 hp
• at 575/600 V at inside-delta circuit at 50 °C rated value	500 hp
contact rating of auxiliary contacts according to UL	R300-B300
Safety related data	
protection class IP on the front according to IEC 60529	IP00; IP20 with cover
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with cover
electromagnetic compatibility	acc. to IEC 60947-4-2
ATEX	
certificate of suitability	
• ATEX	Yes
• IECEx	Yes
 according to ATEX directive 2014/34/EU 	BVS 18 ATEX F 003 X
type of protection according to ATEX directive 2014/34/EU	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]
hardware fault tolerance according to IEC 61508 relating to ATEX	0
PFDavg with low demand rate according to IEC 61508 relating to ATEX	0.008
PFHD with high demand rate according to EN 62061 relating to ATEX	5E-7 1/h
	SIL1
Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX	
	3 s
relating to ATEX T1 value for proof test interval or service life	3 s



General Product Approval



Confirmation







For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping





Type Test Certificates/Test Report





Marine / Shipping

other





Confirmation

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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=3RW5545-2HA

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5545-2HA06

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5545-2HA06

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5545-2HA06&lang=en

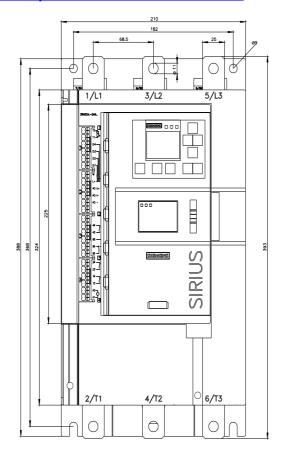
Characteristic: Tripping characteristics, I²t, Let-through current

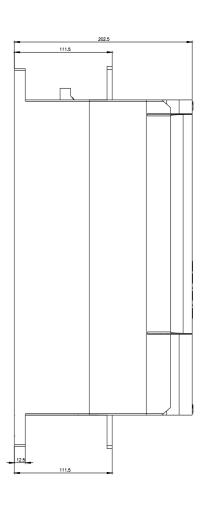
https://support.industry.siemens.com/cs/ww/en/ps/3RW5545-2HA06/char

Characteristic: Installation altitude

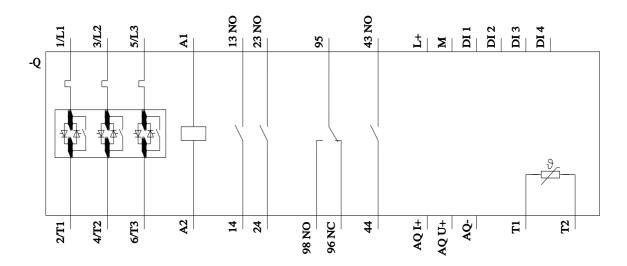
Simulation Tool for Soft Starters (STS)

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









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