



SIRIUS soft starter 200-480 V 250 A, 110-250 V AC Screw 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 circuit
- 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
- of full range R fuse link for semiconductor protection usable up to 690 V
- 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](#)

[3VA2440-7MN32-0AA0](#); Type of coordination 1, I_q = 65 kA, CLASS 10

[3VA2440-7MN32-0AA0](#); Type of coordination 1, I_q = 65 kA, CLASS 10

[3VA2450-7MN32-0AA0](#); Type of coordination 1, I_q = 65 kA, CLASS 10

[3VA2450-7MN32-0AA0](#); Type of coordination 1, I_q = 65 kA, CLASS 10

2x3NA3354-6; Type of coordination 1, I_q = 65 kA

2x3NA3354-6; Type of coordination 1, I_q = 65 kA

[3NE1331-0](#); Type of coordination 2, I_q = 65 kA

[3NE3335](#); Type of coordination 2, I_q = 65 kA

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

<ul style="list-style-type: none"> • CSA approval 	Yes
product component	Yes
<ul style="list-style-type: none"> • HMI-High Feature • 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	
<ul style="list-style-type: none"> • for main current circuit • for control circuit 	100 ms 100 ms
idle time adjustable	0 ... 255 s
insulation voltage rated value	480 V
degree of pollution	3, acc. to IEC 60947-4-2
impulse voltage rated value	6 kV
blocking voltage of the thyristor maximum	1 400 V
service factor	1.15
surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
<ul style="list-style-type: none"> • between main and auxiliary circuit 	480 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
utilization category according to IEC 60947-4-2	AC 53a
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	02/15/2018
product function	
<ul style="list-style-type: none"> • ramp-up (soft starting) • ramp-down (soft stop) • breakaway pulse • adjustable current limitation • creep speed in both directions of rotation • pump ramp down • DC braking • motor heating • slave pointer function • trace function • intrinsic device protection • motor overload protection 	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
<ul style="list-style-type: none"> • evaluation of thermistor motor protection • inside-delta circuit • auto-RESET • manual RESET • remote reset • communication function • operating measured value display • event list • error logbook • via software parameterizable • via software configurable • screw terminal • spring-loaded terminal • PROFinergy 	Yes; Full motor protection (thermistor motor protection and electronic motor overload protection) / When using the motor overload protection according to ATEX, an upstream contactor is required in inside-delta circuit. Yes; Type A PTC or Klixon / Thermoclick Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes No Yes; in connection with the PROFINET Standard and PROFINET High-Feature communication modules Yes Yes Yes Yes Yes
<ul style="list-style-type: none"> • firmware update • removable terminal for control circuit • voltage ramp • torque control • combined braking • analog output • programmable control inputs/outputs 	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes; 4 ... 20 mA (default) / 0 ... 10 V Yes

• condition monitoring	Yes
• 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	250 A
• at 40 °C rated value minimum	50 A
• at 50 °C rated value	220 A
• at 60 °C rated value	200 A

operational current at inside-delta circuit

• at 40 °C rated value	433 A
• at 50 °C rated value	381 A
• at 60 °C rated value	346 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	75 kW
• at 230 V at inside-delta circuit at 40 °C rated value	132 kW
• at 400 V at 40 °C rated value	132 kW
• at 400 V at inside-delta circuit at 40 °C rated value	250 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	75 W
• at 50 °C after startup	66 W
• at 60 °C after startup	60 W

power loss [W] at AC at current limitation 350 %

• at 40 °C during startup	3 806 W
• at 50 °C during startup	3 176 W
• at 60 °C during startup	2 787 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

control supply voltage at AC

• at 50 Hz	110 ... 250 V
• at 60 Hz	110 ... 250 V

relative negative tolerance of the control supply voltage at AC at 50 Hz

-15 %

relative positive tolerance of the control supply voltage at AC at 50 Hz

10 %

relative negative tolerance of the control supply voltage at AC at 60 Hz

-15 %

relative positive tolerance of the control supply voltage at AC at 60 Hz

10 %

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 current in standby mode rated value

100 mA

holding current in bypass operation rated value

150 mA

inrush current by closing the bypass contacts maximum	0.87 A
inrush current peak at application of control supply voltage maximum	43 A
duration of inrush current peak at application of control supply voltage	1.6 ms
design of the overvoltage protection	Varistor
design of short-circuit protection for control circuit	4 A gG fuse (I _{cu} =1 kA), 6 A quick-acting fuse (I _{cu} =1 kA), C1 miniature circuit breaker (I _{cu} = 600 A), C6 miniature circuit breaker (I _{cu} = 300 A); Is not part of scope of supply

Inputs/ Outputs

number of digital inputs	4
<ul style="list-style-type: none"> parameterizable 	4
<ul style="list-style-type: none"> number of digital outputs 	4
<ul style="list-style-type: none"> number of digital outputs parameterizable 	3
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> at AC-15 at 250 V rated value 	3 A
<ul style="list-style-type: none"> 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	393 mm
width	210 mm
depth	203 mm
required spacing with side-by-side mounting	
<ul style="list-style-type: none"> forwards 	10 mm
<ul style="list-style-type: none"> backwards 	0 mm
<ul style="list-style-type: none"> upwards 	100 mm
<ul style="list-style-type: none"> downwards 	75 mm
<ul style="list-style-type: none"> at the side 	5 mm
weight without packaging	10.2 kg

Connections/ Terminals

type of electrical connection	
<ul style="list-style-type: none"> for main current circuit 	busbar connection
<ul style="list-style-type: none"> for control circuit 	screw-type terminals
width of connection bar maximum	45 mm
wire length for thermistor connection	
<ul style="list-style-type: none"> with conductor cross-section = 0.5 mm² maximum 	50 m
<ul style="list-style-type: none"> with conductor cross-section = 1.5 mm² maximum 	150 m
<ul style="list-style-type: none"> with conductor cross-section = 2.5 mm² maximum 	250 m
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> for DIN cable lug for main contacts stranded 	2x (50 ... 240 mm ²)
<ul style="list-style-type: none"> for DIN cable lug for main contacts finely stranded 	2x (70 ... 240 mm ²)
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> for control circuit solid 	1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²)
<ul style="list-style-type: none"> for control circuit finely stranded with core end processing 	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²)
<ul style="list-style-type: none"> at AWG cables for control circuit solid 	1x (20 ... 12), 2x (20 ... 14)
wire length	
<ul style="list-style-type: none"> between soft starter and motor maximum 	800 m
<ul style="list-style-type: none"> at the digital inputs at DC maximum 	1 000 m
tightening torque	
<ul style="list-style-type: none"> for main contacts with screw-type terminals 	14 ... 24 N·m
<ul style="list-style-type: none"> for auxiliary and control contacts with screw-type terminals 	0.8 ... 1.2 N·m
tightening torque [lbf·in]	
<ul style="list-style-type: none"> for main contacts with screw-type terminals 	124 ... 210 lbf·in
<ul style="list-style-type: none"> 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
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<p>ambient temperature</p> <ul style="list-style-type: none"> during operation during storage and transport <p>environmental category</p> <ul style="list-style-type: none"> during operation according to IEC 60721 during storage according to IEC 60721 during transport according to IEC 60721 <p>EMC emitted interference</p>	<p>-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above -40 ... +80 °C</p> <p>3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6 1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4 2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m) acc. to IEC 60947-4-2: Class A</p>
Communication/ Protocol	
<p>communication module is supported</p> <ul style="list-style-type: none"> PROFINET standard PROFINET high-feature EtherNet/IP Modbus RTU Modbus TCP PROFIBUS 	<p>Yes Yes Yes Yes Yes Yes</p>
UL/CSA ratings	
<p>manufacturer's article number</p> <ul style="list-style-type: none"> of circuit breaker <ul style="list-style-type: none"> usable for Standard Faults at 460/480 V according to UL usable for High Faults at 460/480 V according to UL usable for Standard Faults at 460/480 V at inside-delta circuit according to UL usable for High Faults at 460/480 V at inside-delta circuit according to UL usable for Standard Faults at 575/600 V according to UL usable for High Faults at 575/600 V at inside-delta circuit according to UL usable for Standard Faults at 575/600 V at inside-delta circuit according to UL of the fuse <ul style="list-style-type: none"> 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 <p>operating power [hp] for 3-phase motors</p> <ul style="list-style-type: none"> 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 <p>contact rating of auxiliary contacts according to UL</p>	<p>Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 18 kA</p> <p>Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq max = 65 kA</p> <p>Siemens type: 3VA54, max. 600 A; Iq = 18 kA</p> <p>Siemens type: 3VA54, max. 600 A; Iq max = 65 kA</p> <p>Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 18 kA</p> <p>Siemens type: 3VA54, max. 600 A; Iq max = 65 kA</p> <p>Siemens type: 3VA54, max. 600 A; Iq = 18 kA</p> <p>Type: Class J / L, max. 800 A; Iq = 18 kA</p> <p>Type: Class J / L, max. 800 A; Iq = 100 kA</p> <p>Type: Class J / L, max. 800 A; Iq = 18 kA</p> <p>Type: Class J / L, max. 800 A; Iq = 100 kA</p> <p>60 hp 75 hp 150 hp 125 hp 150 hp 300 hp</p> <p>R300-B300</p>
Safety related data	
<p>protection class IP on the front according to IEC 60529</p> <p>touch protection on the front according to IEC 60529</p> <p>electromagnetic compatibility</p>	<p>IP00; IP20 with cover</p> <p>finger-safe, for vertical contact from the front with cover acc. to IEC 60947-4-2</p>
ATEX	
<p>certificate of suitability</p> <ul style="list-style-type: none"> ATEX IECEx according to ATEX directive 2014/34/EU 	<p>Yes Yes BVS 18 ATEX F 003 X</p>

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
Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX	SIL1
T1 value for proof test interval or service life according to IEC 61508 relating to ATEX	3 a

Certificates/ approvals

General Product Approval	EMC
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[Confirmation](#)



For use in hazardous locations	Declaration of Conformity	Test Certificates	Marine / Shipping
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[Type Test Certificates/Test Report](#)



Marine / Shipping	other
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[Confirmation](#)

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?mfb=3RW5544-6HA14>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RW5544-6HA14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5544-6HA14>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3RW5544-6HA14&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

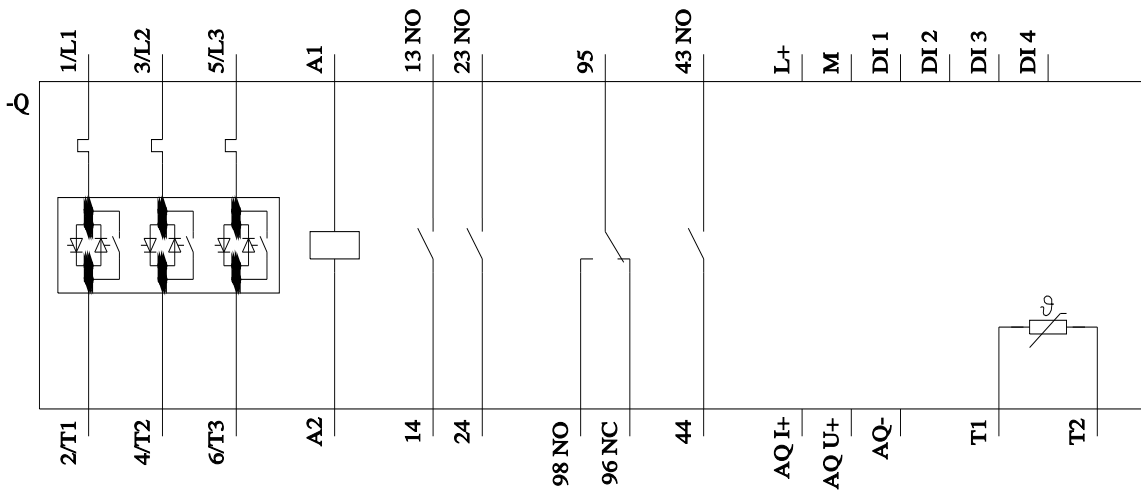
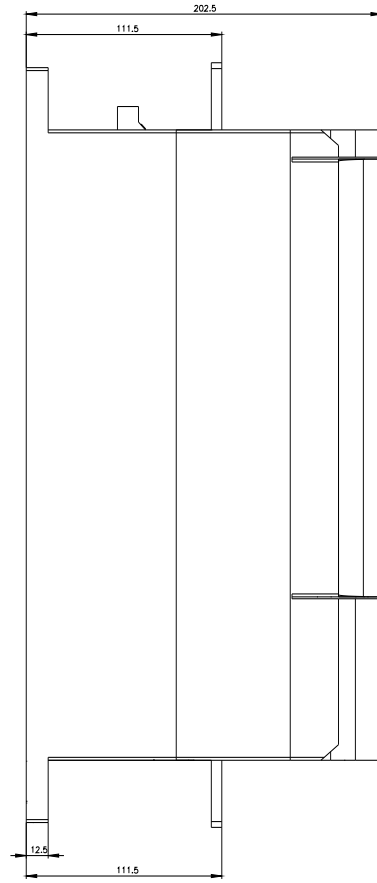
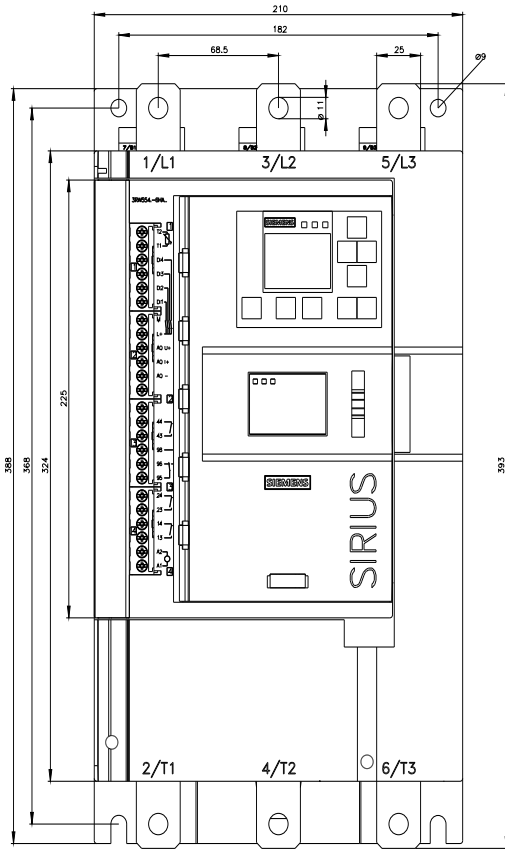
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5544-6HA14/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mfb=3RW5544-6HA14&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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



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