



Figure similar

SIRIUS soft starter 200-480 V 38 A, 24 V AC/DC spring-type terminals Fail-safe

**product brand name**

SIRIUS

**product category**

Hybrid switching devices

**product designation**

Failsafe soft starters

**product type designation**

3RW55

**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
- of the redundant contactor for applications > SIL 1 according to EN 62061
- of the redundant contactor for applications > SIL 1 at inside-delta circuit according to EN 62061
- of the redundant contactor for applications > SIL 1 according to EN ISO 13849-1
- of the redundant contactor for applications > SIL 1 at inside-delta circuit according to EN ISO 13849-1

[3RW5980-0HF00](#)

[3RW5980-0CS00](#)

[3RW5950-0CH00](#)

[3RW5980-0CP00](#)

[3RW5980-0CT00](#)

[3RW5980-0CR00](#)

[3RW5980-0CE00](#)

[3RV2032-4WA10](#); Type of coordination 1,  $I_q = 65 \text{ kA}$ , CLASS 10

[3RV2032-4WA10](#); Type of coordination 1,  $I_q = 10 \text{ kA}$ , CLASS 10

[3RV2032-4RA10](#); Type of coordination 1,  $I_q = 65 \text{ kA}$ , CLASS 10

[3RV2032-4RA10](#); Type of coordination 1,  $I_q = 10 \text{ kA}$ , CLASS 10

[3NA3824-6](#); Type of coordination 1,  $I_q = 65 \text{ kA}$

[3NA3824-6](#); Type of coordination 1,  $I_q = 65 \text{ kA}$

[3NE1820-0](#); Type of coordination 2,  $I_q = 65 \text{ kA}$

[3NE8024-1](#); Type of coordination 2,  $I_q = 65 \text{ kA}$

[3RT2037](#)

[3RT2037](#)

[3RT2038](#)

[3RT2038](#)

**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	
• HMI-High Feature	Yes
• 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	
• for main current circuit	100 ms
• for control circuit	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	1 600 V
service factor	1.15
surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
• 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)	11/22/2019
product function	
• 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
	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.
• evaluation of thermistor motor protection	Yes; Type A PTC or Klixon / Thermoclick
• inside-delta circuit	Yes
• 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-

• firmware update	Yes
• removable terminal for control circuit	Yes
• voltage ramp	Yes
• torque control	Yes
• combined braking	Yes
• analog output	Yes; 4 ... 20 mA (default) / 0 ... 10 V
• programmable control inputs/outputs	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

<b>operational current</b>	
• at 40 °C rated value	38 A
• at 40 °C rated value minimum	7.5 A
• at 50 °C rated value	33.5 A
• at 60 °C rated value	30.5 A
<b>operational current at inside-delta circuit</b>	
• at 40 °C rated value	65.8 A
• at 50 °C rated value	58 A
• at 60 °C rated value	52.8 A
<b>operating voltage</b>	
• rated value	200 ... 480 V
• at inside-delta circuit rated value	200 ... 480 V
<b>relative negative tolerance of the operating voltage</b>	-15 %
<b>relative positive tolerance of the operating voltage</b>	10 %
<b>relative negative tolerance of the operating voltage at inside-delta circuit</b>	-15 %
<b>relative positive tolerance of the operating voltage at inside-delta circuit</b>	10 %
<b>operating power for 3-phase motors</b>	
• at 230 V at 40 °C rated value	11 kW
• at 230 V at inside-delta circuit at 40 °C rated value	18.5 kW
• at 400 V at 40 °C rated value	18.5 kW
• at 400 V at inside-delta circuit at 40 °C rated value	30 kW
<b>Operating frequency 1 rated value</b>	50 Hz
<b>Operating frequency 2 rated value</b>	60 Hz
<b>relative negative tolerance of the operating frequency</b>	-10 %
<b>relative positive tolerance of the operating frequency</b>	10 %
<b>minimum load [%]</b>	10 %; Relative to set $I_e$
<b>power loss [W] for rated value of the current at AC</b>	
• at 40 °C after startup	11 W
• at 50 °C after startup	10 W
• at 60 °C after startup	9 W
<b>power loss [W] at AC at current limitation 350 %</b>	
• at 40 °C during startup	616 W
• at 50 °C during startup	511 W
• at 60 °C during startup	447 W
<b>type of the motor protection</b>	Electronic, tripping in the event of thermal overload of the motor

## Control circuit/ Control

<b>type of voltage of the control supply voltage</b>	AC/DC
<b>control supply voltage at AC</b>	
• at 50 Hz rated value	24 V
• at 60 Hz rated value	24 V
<b>relative negative tolerance of the control supply voltage at AC at 50 Hz</b>	-20 %
<b>relative positive tolerance of the control supply voltage at AC at 50 Hz</b>	20 %
<b>relative negative tolerance of the control supply voltage at AC at 60 Hz</b>	-20 %

<b>relative positive tolerance of the control supply voltage at AC at 60 Hz</b>	20 %
<b>control supply voltage frequency</b>	50 ... 60 Hz
<b>relative negative tolerance of the control supply voltage frequency</b>	-10 %
<b>relative positive tolerance of the control supply voltage frequency</b>	10 %
<b>control supply voltage</b>	
• at DC rated value	24 V
<b>relative negative tolerance of the control supply voltage at DC</b>	-20 %
<b>relative positive tolerance of the control supply voltage at DC</b>	20 %
<b>control supply current in standby mode rated value</b>	420 mA
<b>holding current in bypass operation rated value</b>	820 mA
<b>inrush current by closing the bypass contacts maximum</b>	0.91 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
<b>design of the overvoltage protection</b>	Varistor
<b>design of short-circuit protection for control circuit</b>	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

<b>number of digital inputs</b>	4
• with fail-safe	1
• parameterizable	4
<b>number of digital outputs</b>	3
• Number of digital outputs with fail-safe	1
• number of digital outputs parameterizable	2
• number of digital outputs not parameterizable	1
<b>digital output version</b>	2 normally-open contacts (NO) / 1 normally-closed contact (NC) / 1 changeover contact (CO)
<b>number of analog outputs</b>	1
<b>switching capacity current of the relay outputs</b>	
• at AC-15 at 250 V rated value	3 A
• at DC-13 at 24 V rated value	1 A

#### Response times

OFF-delay time with safety-related request when switched off via control inputs maximum	100 ms
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#### Installation/ mounting/ dimensions

<b>mounting position</b>	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)
<b>fastening method</b>	screw fixing
<b>height</b>	275 mm
<b>width</b>	170 mm
<b>depth</b>	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
<b>weight without packaging</b>	2.6 kg

#### Connections/ Terminals

<b>type of electrical connection</b>	screw-type terminals spring-loaded terminals
• for main current circuit	
• for control circuit	
<b>wire length for thermistor connection</b>	
• with conductor cross-section = 0.5 mm <sup>2</sup> maximum	50 m
• with conductor cross-section = 1.5 mm <sup>2</sup> maximum	150 m
• with conductor cross-section = 2.5 mm <sup>2</sup> maximum	250 m
<b>type of connectable conductor cross-sections</b>	
• for main contacts	

— solid	2x (1.0 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> )
— finely stranded with core end processing	2x (1.0 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6.0 mm <sup>2</sup> )
• at AWG cables for main current circuit solid	2x (16 ... 12), 2x (14 ... 8)
<b>type of connectable conductor cross-sections</b>	
• for control circuit solid	2x (0.25 ... 1.5 mm <sup>2</sup> )
• for control circuit finely stranded with core end processing	2x (0.25 ... 1.5 mm <sup>2</sup> )
• 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)
<b>wire length</b>	
• between soft starter and motor maximum	800 m
• at the digital inputs at DC maximum	1 000 m
<b>tightening torque</b>	
• for main contacts with screw-type terminals	2 ... 2.5 N·m
• for auxiliary and control contacts with screw-type terminals	0.8 ... 1.2 N·m
<b>tightening torque [lbf·in]</b>	
• for main contacts with screw-type terminals	18 ... 22 lbf·in
• for auxiliary and control contacts with screw-type terminals	7 ... 10.3 lbf·in

Ambient conditions	
installation altitude at height above sea level maximum	2 000 m; Derating as of 1000 m, see catalog
<b>ambient temperature</b>	
• during operation	-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above
• during storage and transport	-40 ... +80 °C
<b>environmental category</b>	
• 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)
<b>EMC emitted interference</b>	acc. to IEC 60947-4-2: Class A

Communication/ Protocol	
<b>communication module is supported</b>	
• PROFINET standard	Yes
• PROFINET high-feature	Yes
• EtherNet/IP	Yes
• Modbus RTU	Yes
• Modbus TCP	Yes
• PROFIBUS	Yes

UL/CSA ratings	
<b>manufacturer's article number</b>	
<b>• of circuit breaker</b>	
— usable for Standard Faults at 460/480 V according to UL	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 125 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. 125 A; Iq = 5 kA
— 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. 125 A; Iq = 5 kA
— usable for High Faults at 575/600 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 at inside-delta circuit according to UL	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 125 A; Iq = 5 kA
<b>• of the fuse</b>	
— usable for Standard Faults up to 575/600 V according to UL	Type: Class RK5 / K5, max. 150 A; Iq = 5 kA
— usable for High Faults up to 575/600 V according to UL	Type: Class J / L, max. 150 A; Iq = 100 kA
— usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL	Type: Class RK5 / K5, max. 150 A; Iq = 5 kA

— usable for High Faults at inside-delta circuit up to 575/600 V according to UL

#### operating power [hp] for 3-phase motors

- 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

Type: Class J / L, max. 150 A;  $I_q = 100 \text{ kA}$

10 hp  
10 hp  
20 hp  
15 hp  
20 hp  
40 hp

R300-B300

#### contact rating of auxiliary contacts according to UL

#### Safety related data

##### safety device type according to IEC 61508-2

B10d value

##### Safety Integrity Level (SIL)

- according to IEC 61508

Type B  
1 588 000

##### SIL Claim Limit (subsystem) according to EN 62061

performance level (PL) according to EN ISO 13849-1

category according to EN ISO 13849-1

##### stop category according to EN 60204-1

##### Safe failure fraction (SFF)

##### average diagnostic coverage level (DCavg)

diagnostics test interval by internal test function

maximum

PFHD with high demand rate according to EN 62061

##### PFDavg with low demand rate according to IEC 61508

##### hardware fault tolerance according to IEC 61508

T1 value for proof test interval or service life according to IEC 61508

##### safe state

##### protection class IP on the front according to IEC 60529

6029

##### touch protection on the front according to IEC 60529

##### electromagnetic compatibility

SIL1  
SIL 1  
c  
2  
0  
60 %  
90 %  
1 000 s

1E-6 1/h

0.09

0

20 a

Open load circuit  
IP20

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

Yes  
Yes  
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]

0

##### hardware fault tolerance according to IEC 61508 relating to ATEX

0.008

##### PFDavg with low demand rate according to IEC 61508 relating to ATEX

5E-7 1/h

##### PFHD with high demand rate according to EN 62061 relating to ATEX

0

##### 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



[Confirmation](#)



EMC

For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping



Type Test Certific-  
ates/Test Report



Marine / Shipping

other



[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?mlfb=3RW5517-3HF04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5517-3HF04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5517-3HF04>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5517-3HF04&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5517-3HF04&lang=en)

Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

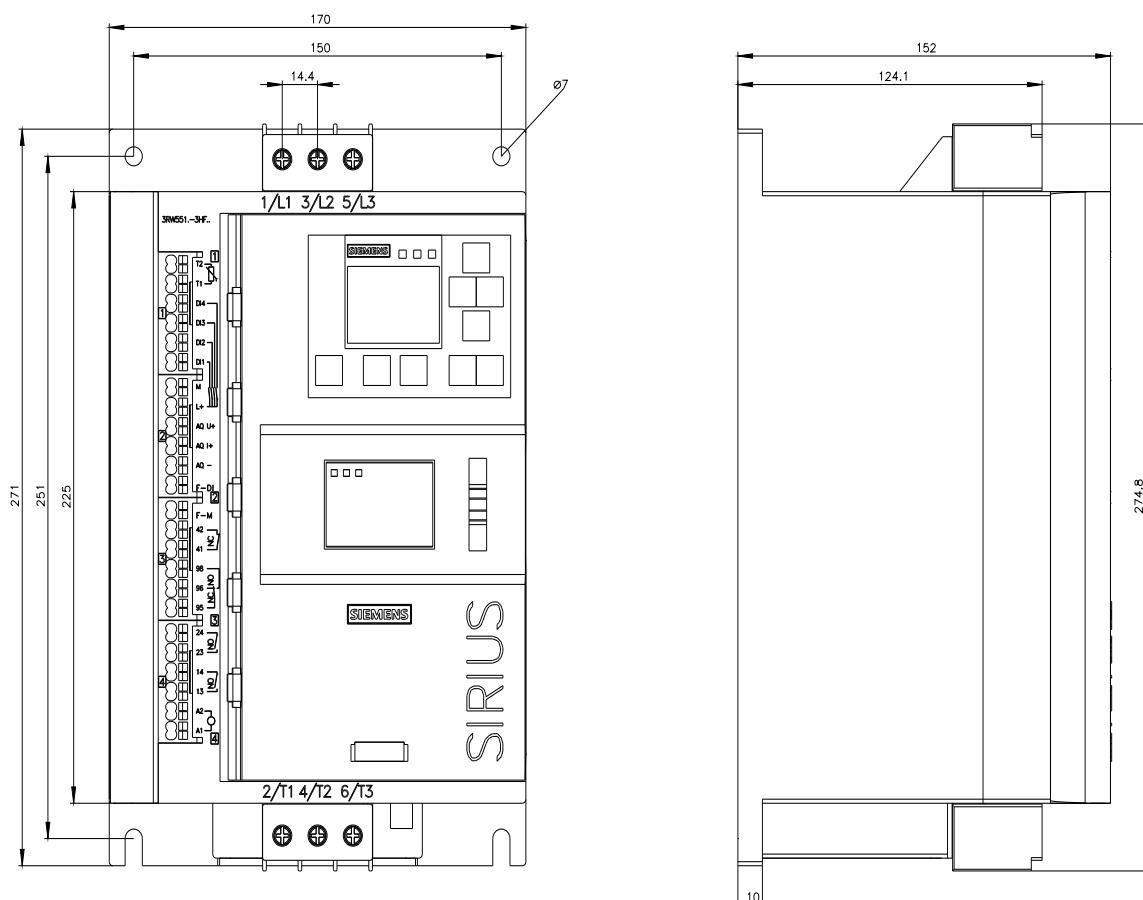
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5517-3HF04/char>

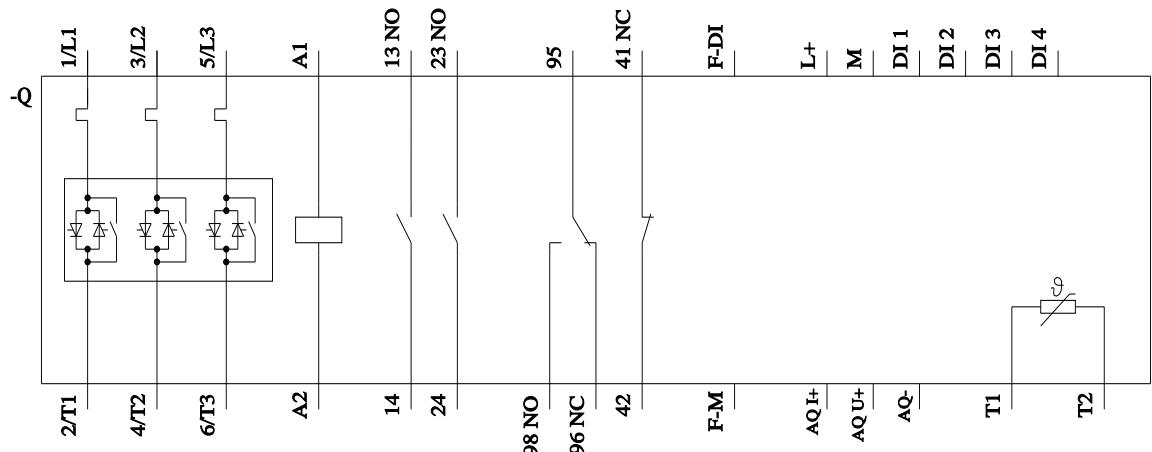
Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5517-3HF04&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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





last modified:

1/13/2023

