

SIRIUS soft starter 200-480 V 210 A, 24 V AC/DC spring-type terminals Thermistor input



Product brand name	SIRIUS
Product category	Hybrid switching devices
Product designation	Soft starter
Product type designation	3RW52
Manufacturer's article number	
<ul style="list-style-type: none"> • of HMI module usable • of HMI-Modul high-feature usable • of communication module PROFINET standard 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 	<ul style="list-style-type: none"> 3RW5980-0HS00 3RW5980-0HF00 3RW5980-0CS00 3RW5980-0CP00 3RW5980-0CT00 3RW5980-0CR00 3RW5980-0CE00 3VA2325-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 3VA2325-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10

- 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

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

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

[3NE1230-2; Type of coordination 2, I_q = 65 kA](#)

[3NE3333; Type of coordination 2, I_q = 65 kA](#)

General technical data

Starting voltage [%]	30 ... 100 %
Stopping voltage [%]	50 ... 50 %
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	
• is supported HMI-Standard	Yes
• is supported HMI-High Feature	Yes
Product feature integrated bypass contact system	Yes
Number of controlled phases	3
Trip class	CLASS 10A (default) / 10E / 20E; acc. to IEC 60947-4-2
Insulation voltage	
• rated value	600 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
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
• between main and auxiliary circuit	600 V
Protection class IP	IP00
Usage category acc. to IEC 60947-4-2	AC 53a
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
Reference code acc. to DIN EN 81346-2	Q
Product function	
• ramp-up (soft starting)	Yes
• ramp-down (soft stop)	Yes
• Soft Torque	Yes
• Adjustable current limitation	Yes
• pump ramp down	Yes

• Intrinsic device protection	Yes
• motor overload protection	Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)
• 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; By turning off the control supply voltage
• communication function	Yes
• operating measured value display	Yes; Only in conjunction with special accessories
• error logbook	Yes; Only in conjunction with special accessories
• via software parameterizable	No
• via software configurable	Yes
• PROFINET	Yes; in connection with the PROFINET Standard communication module
• firmware update	Yes
• removable terminal for control circuit	Yes
• torque control	No
• analog output	No

Power Electronics

Operating current	
• at 40 °C rated value	210 A
• at 50 °C rated value	186 A
• at 60 °C rated value	170 A
Operating current at inside-delta circuit	
• at 40 °C rated value	364 A
• at 50 °C rated value	322 A
• at 60 °C rated value	294 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 three-phase motors	
• at 230 V at 40 °C rated value	55 kW
• at 230 V at inside-delta circuit at 40 °C rated value	110 kW
• at 400 V at 40 °C rated value	110 kW

<ul style="list-style-type: none"> • at 400 V at inside-delta circuit at 40 °C rated value 	200 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	
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 1 • at rotary encoding switch on switch position 3 • at rotary encoding switch on switch position 4 • at rotary encoding switch on switch position 5 • at rotary encoding switch on switch position 6 • at rotary encoding switch on switch position 7 • at rotary encoding switch on switch position 8 • at rotary encoding switch on switch position 9 • at rotary encoding switch on switch position 10 • at rotary encoding switch on switch position 11 • at rotary encoding switch on switch position 12 • at rotary encoding switch on switch position 13 • at rotary encoding switch on switch position 14 • at rotary encoding switch on switch position 15 • at rotary encoding switch on switch position 16 • minimum • at inside-delta circuit minimum 	90 A 106 A 114 A 122 A 130 A 138 A 146 A 154 A 162 A 170 A 178 A 186 A 194 A 202 A 210 A 90 A 156 A
Adjustable motor current for inside-delta circuit	
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 1 • at rotary encoding switch on switch position 2 • at rotary encoding switch on switch position 3 • at rotary encoding switch on switch position 4 • at rotary encoding switch on switch position 5 • at rotary encoding switch on switch position 6 • at rotary encoding switch on switch position 7 • at rotary encoding switch on switch position 8 • at rotary encoding switch on switch position 9 • at rotary encoding switch on switch position 10 • at rotary encoding switch on switch position 11 • at rotary encoding switch on switch position 12 • at rotary encoding switch on switch position 13 • at rotary encoding switch on switch position 14 • at rotary encoding switch on switch position 15 • at rotary encoding switch on switch position 16 	156 A 170 A 184 A 197 A 211 A 225 A 239 A 253 A 267 A 281 A 294 A 308 A 322 A 336 A 350 A 364 A

Minimum load [%]	15 %; Relative to smallest settable le
Power loss [W] for rated value of the current at AC	
• at 40 °C to power-up	75 W
• at 50 °C to power-up	68 W
• at 60 °C to power-up	63 W
Power loss [W] at AC at AC	
• at 40 °C during startup	3 562 W
• at 50 °C during startup	2 979 W
• at 60 °C during startup	2 617 W

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 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 the by-pass mode operating rated value	470 mA
Starting current at close of by-pass contact maximum	7.6 A
Inrush current peak at connect of control supply voltage maximum	3.3 A
Duration of inrush current peak at connect 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 (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
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Inputs/ Outputs

Number of digital inputs	1
Number of inputs for thermistor connection	1; Type A PTC or Klixon / Thermoclick
Number of digital outputs	3
<ul style="list-style-type: none"> not parameterizable 	2
Digital output version	2 normally-open contacts (NO) / 1 changeover contact (CO)
Number of analog outputs	0
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	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
Mounting type	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
Installation altitude at height above sea level maximum	5 000 m; Derating as of 1000 m, see catalog
Weight without packaging	9.9 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 	spring-loaded terminals
Width of connection bar maximum	45 mm
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 	2x (0.25 ... 1.5 mm ²)
<ul style="list-style-type: none"> for control circuit finely stranded with core end processing 	2x (0.25 ... 1.5 mm ²)

<ul style="list-style-type: none"> • at AWG conductors for control circuit solid • at AWG conductors for control circuit finely stranded with core end processing 	<p>2x (24 ... 16)</p> <p>2x (24 ... 16)</p>
Wire length <ul style="list-style-type: none"> • between soft starter and motor maximum • at the digital inputs at AC maximum • at the digital inputs at DC maximum 	<p>800 m</p> <p>100 m</p> <p>1 000 m</p>
Tightening torque <ul style="list-style-type: none"> • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals 	<p>14 ... 24 N·m</p> <p>0.8 ... 1.2 N·m</p>
Tightening torque [lbf·in] <ul style="list-style-type: none"> • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals 	<p>124 ... 210 lbf·in</p> <p>7 ... 10.3 lbf·in</p>

Ambient conditions	
Ambient temperature <ul style="list-style-type: none"> • during operation • during storage and transport 	<p>-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above</p> <p>-40 ... +80 °C</p>
Environmental category <ul style="list-style-type: none"> • during operation acc. to IEC 60721 • during storage acc. to IEC 60721 • during transport acc. to IEC 60721 	<p>3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6</p> <p>1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4</p> <p>2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)</p>
EMC emitted interference	acc. to IEC 60947-4-2: Class A

Communication/ Protocol	
Communication module is supported <ul style="list-style-type: none"> • PROFINET standard • EtherNet/IP • Modbus RTU • Modbus TCP • PROFIBUS 	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>

UL/CSA ratings	
Manufacturer's article number <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 	<p>Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 10 kA</p> <p>Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq max = 65 kA</p>

- 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 Standard Faults at 575/600 V at inside-delta circuit according to UL

• **of the fuse**

- 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

Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; I_q = 10 kA

Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; I_q max = 65 kA

Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; I_q = 10 kA

Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; I_q = 10 kA

Type: Class J / L, max. 700 A; I_q = 10 kA

Type: Class J / L, max. 700 A; I_q = 100 kA

Type: Class J / L, max. 700 A; I_q = 10 kA

Type: Class J / L, max. 700 A; I_q = 100 kA

Operating power [hp] for three-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

60 hp
60 hp
150 hp
100 hp
125 hp
250 hp

Contact rating of auxiliary contacts according to UL

R300-B300

Safety related data

Electromagnetic compatibility

in accordance with IEC 60947-4-2

Certificates/ approvals

General Product Approval	EMC	Declaration of Conformity
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Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



other

[Confirmation](#)

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

www.siemens.com/ic10

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RW5243-2TC04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5243-2TC04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5243-2TC04>

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

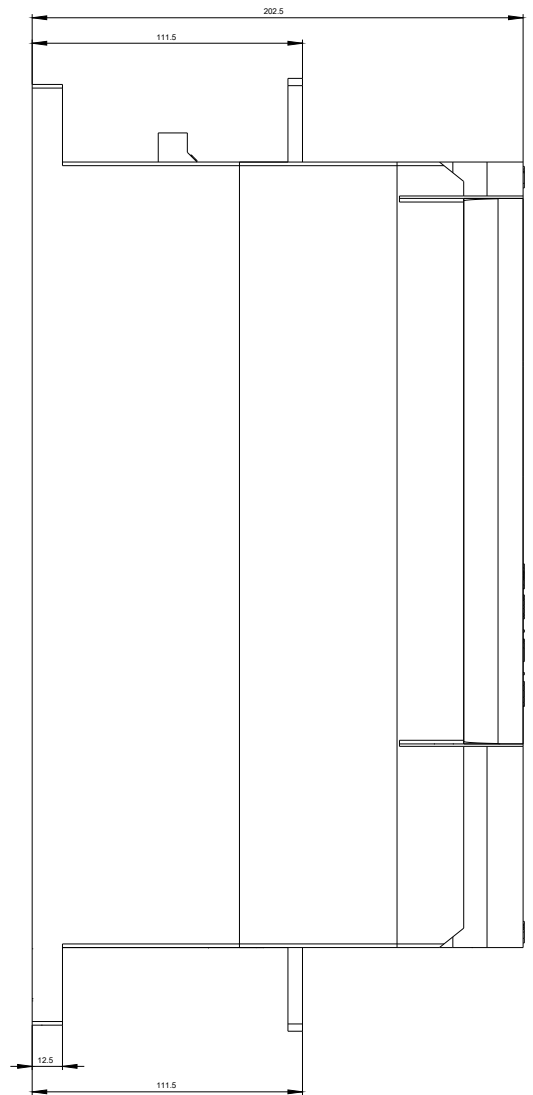
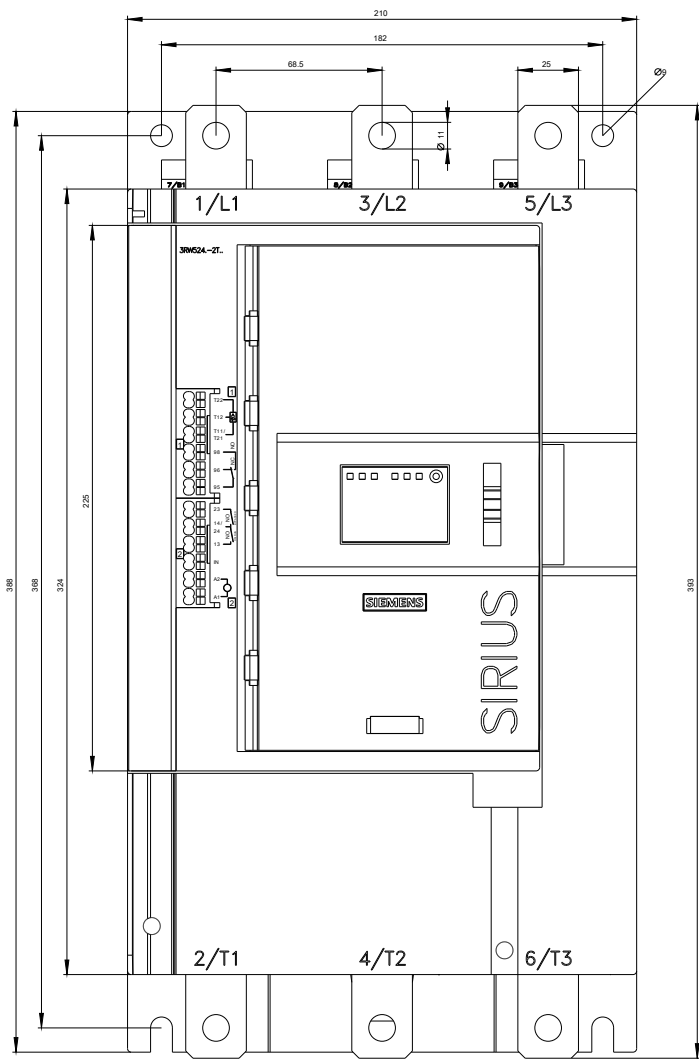
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5243-2TC04&lang=en

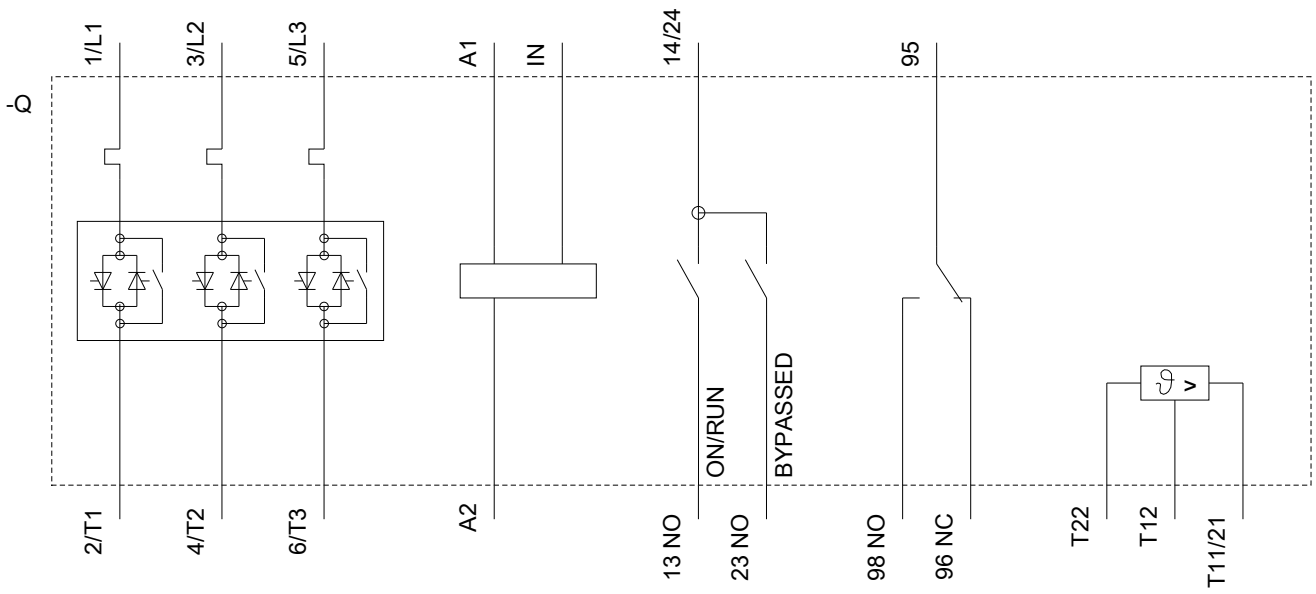
Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5243-2TC04/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5243-2TC04&objecttype=14&gridview=view1>





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