



SIRIUS soft starter 200-480 V 113 A, 24 V AC/DC Screw 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 standard HMI module usable 	3RW5980-0HS00
<ul style="list-style-type: none"> • of high feature HMI module usable 	3RW5980-0HF00
<ul style="list-style-type: none"> • of communication module PROFINET standard usable 	3RW5980-0CS00
<ul style="list-style-type: none"> • of communication module PROFIBUS usable 	3RW5980-0CP00
<ul style="list-style-type: none"> • of communication module Modbus TCP usable 	3RW5980-0CT00
<ul style="list-style-type: none"> • of communication module Modbus RTU usable 	3RW5980-0CR00
<ul style="list-style-type: none"> • of communication module Ethernet/IP 	3RW5980-0CE00
<ul style="list-style-type: none"> • of circuit breaker usable at 400 V 	3VA2216-7MN32-0AA0; Type of coordination 1, I _q = 65 kA, CLASS 10
<ul style="list-style-type: none"> • of circuit breaker usable at 400 V at inside-delta circuit 	3VA2220-7MN32-0AA0; Type of coordination 1, I _q = 65 kA, CLASS 10
<ul style="list-style-type: none"> • of the gG fuse usable up to 690 V 	3NA3244-6; Type of coordination 1, I _q = 65 kA
<ul style="list-style-type: none"> • of the gG fuse usable at inside-delta circuit up to 500 V 	3NA3244-6; Type of coordination 1, I _q = 65 kA
<ul style="list-style-type: none"> • of full range R fuse link for semiconductor protection usable up to 690 V 	3NE1225-0; Type of coordination 2, I _q = 65 kA
<ul style="list-style-type: none"> • of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE3332-0B; 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	
<ul style="list-style-type: none"> • CE marking 	Yes
<ul style="list-style-type: none"> • UL approval 	Yes
<ul style="list-style-type: none"> • CSA approval 	Yes
product component is supported	
<ul style="list-style-type: none"> • HMI-Standard 	Yes
<ul style="list-style-type: none"> • 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
buffering time in the event of power failure	

<ul style="list-style-type: none"> • for main current circuit • for control circuit 	100 ms
insulation voltage rated value	100 ms
degree of pollution	600 V
impulse voltage rated value	3, acc. to IEC 60947-4-2
blocking voltage of the thyristor maximum	6 kV
service factor	1 400 V
surge voltage resistance rated value	1
maximum permissible voltage for safe isolation	6 kV
<ul style="list-style-type: none"> • between main and auxiliary circuit 	600 V
utilization 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 IEC 81346-2	Q
product function	
<ul style="list-style-type: none"> • ramp-up (soft starting) • ramp-down (soft stop) • Soft Torque • adjustable current limitation • pump ramp down • intrinsic device protection • motor overload protection 	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)
<ul style="list-style-type: none"> • evaluation of thermistor motor protection 	Yes; Type A PTC or Klixon / Thermoclick
<ul style="list-style-type: none"> • inside-delta circuit 	Yes
<ul style="list-style-type: none"> • auto-RESET 	Yes
<ul style="list-style-type: none"> • manual RESET 	Yes
<ul style="list-style-type: none"> • remote reset 	Yes; By turning off the control supply voltage
<ul style="list-style-type: none"> • communication function 	Yes
<ul style="list-style-type: none"> • operating measured value display 	Yes; Only in conjunction with special accessories
<ul style="list-style-type: none"> • error logbook 	Yes; Only in conjunction with special accessories
<ul style="list-style-type: none"> • via software parameterizable 	No
<ul style="list-style-type: none"> • via software configurable 	Yes
<ul style="list-style-type: none"> • PROFInergy 	Yes; in connection with the PROFINET Standard communication module
<ul style="list-style-type: none"> • firmware update 	Yes
<ul style="list-style-type: none"> • removable terminal for control circuit 	Yes
<ul style="list-style-type: none"> • torque control 	No
<ul style="list-style-type: none"> • analog output 	No
Power Electronics	
operational current	
<ul style="list-style-type: none"> • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value 	113 A
	101 A
	89 A
operational current at inside-delta circuit	
<ul style="list-style-type: none"> • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value 	196 A
	175 A
	154 A
operating voltage	
<ul style="list-style-type: none"> • rated value • at inside-delta circuit rated value 	200 ... 480 V
	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	
<ul style="list-style-type: none"> • at 230 V at 40 °C rated value 	30 kW

<ul style="list-style-type: none"> • at 230 V at inside-delta circuit at 40 °C rated value 	55 kW
<ul style="list-style-type: none"> • at 400 V at 40 °C rated value 	55 kW
<ul style="list-style-type: none"> • at 400 V at inside-delta circuit at 40 °C rated value 	110 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 coding switch on switch position 1 	53 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 2 	57 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 3 	61 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 4 	65 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 5 	69 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 6 	73 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 7 	77 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 8 	81 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 9 	85 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 10 	89 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 11 	93 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 12 	97 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 13 	101 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 14 	105 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 15 	109 A
<ul style="list-style-type: none"> • at rotary coding switch on switch position 16 	113 A
<ul style="list-style-type: none"> • minimum 	53 A
adjustable motor current	
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 1 	91.8 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 2 	98.7 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 3 	106 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 4 	113 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 5 	120 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 6 	126 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 7 	133 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 8 	140 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 9 	147 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 10 	154 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 11 	161 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 12 	168 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 13 	175 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 14 	182 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 15 	189 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 16 	196 A
<ul style="list-style-type: none"> • at inside-delta circuit minimum 	91.8 A
minimum load [%]	15 %; Relative to smallest settable le
power loss [W] for rated value of the current at AC	
<ul style="list-style-type: none"> • at 40 °C after startup 	46 W

<ul style="list-style-type: none"> • at 50 °C after startup 	42 W
<ul style="list-style-type: none"> • at 60 °C after startup 	39 W
power loss [W] at AC at current limitation 350 %	
<ul style="list-style-type: none"> • at 40 °C during startup 	1 512 W
<ul style="list-style-type: none"> • at 50 °C during startup 	1 291 W
<ul style="list-style-type: none"> • at 60 °C during startup 	1 086 W
Control circuit/ Control	
type of voltage of the control supply voltage	AC/DC
<ul style="list-style-type: none"> • control supply voltage at AC at 50 Hz rated value 	24 V
<ul style="list-style-type: none"> • control supply voltage at AC 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 %
<ul style="list-style-type: none"> • 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 bypass operation rated value	380 mA
locked-rotor current at close of bypass contact maximum	7.6 A
inrush current peak at application of control supply voltage maximum	3.3 A
duration of inrush current peak at application 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
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
fastening method	screw fixing
height	306 mm
width	185 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	6.6 kg
Connections/ Terminals	
type of electrical connection	busbar connection
<ul style="list-style-type: none"> for main current circuit for control circuit 	screw-type terminals
width of connection bar maximum	25 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 (16 ... 95 mm ²)
<ul style="list-style-type: none"> for DIN cable lug for main contacts finely stranded 	2x (25 ... 120 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 AC maximum 	100 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 	10 ... 14 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 	89 ... 124 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
<ul style="list-style-type: none"> ambient temperature during operation 	-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above
<ul style="list-style-type: none"> ambient temperature during storage and transport 	-40 ... +80 °C
environmental category	
<ul style="list-style-type: none"> during operation acc. to IEC 60721 	3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
<ul style="list-style-type: none"> during storage acc. to IEC 60721 	1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4
<ul style="list-style-type: none"> during transport acc. 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	
<ul style="list-style-type: none"> PROFINET standard 	Yes
<ul style="list-style-type: none"> EtherNet/IP 	Yes
<ul style="list-style-type: none"> Modbus RTU 	Yes
<ul style="list-style-type: none"> Modbus TCP 	Yes
<ul style="list-style-type: none"> PROFIBUS 	Yes
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 	Siemens type: 3VA52, max. 250 A; I _q = 10 kA
<ul style="list-style-type: none"> — usable for High Faults at 460/480 V according to UL 	Siemens type: 3VA52, max. 250 A; I _q max = 65 kA
<ul style="list-style-type: none"> — usable for Standard Faults at 460/480 V at inside-delta circuit according to UL 	Siemens type: 3VA52, max. 250 A; I _q = 10 kA

- 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: 3VA52, max. 250 A; Iq max = 65 kA

Siemens type: 3VA52, max. 250 A; Iq = 10 kA

Siemens type: 3VA52, max. 250 A; Iq = 10 kA

Type: Class RK5 / K5, max. 350 A; Iq = 10 kA

Type: Class J / L, max. 350 A; Iq = 100 kA

Type: Class RK5 / K5, max. 350 A; Iq = 10 kA

Type: Class J / L, max. 350 A; Iq = 100 kA

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

30 hp

30 hp

75 hp

50 hp

60 hp

125 hp

contact rating of auxiliary contacts according to UL

R300-B300

Safety related data

protection class IP on the front acc. to IEC 60529

IP00; IP20 with cover

touch protection on the front acc. to IEC 60529

finger-safe, for vertical contact from the front with cover

electromagnetic compatibility

in accordance with IEC 60947-4-2

Certificates/ approvals

General Product Approval

EMC



Declaration of Conformity

Test Certificates

Marine / Shipping



[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping

other



[Confirmation](#)

[Confirmation](#)

Further information

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=3RW5234-6TC04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RW5234-6TC04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5234-6TC04>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5234-6TC04&lang=en

Characteristic: Tripping characteristics, I^t, Let-through current

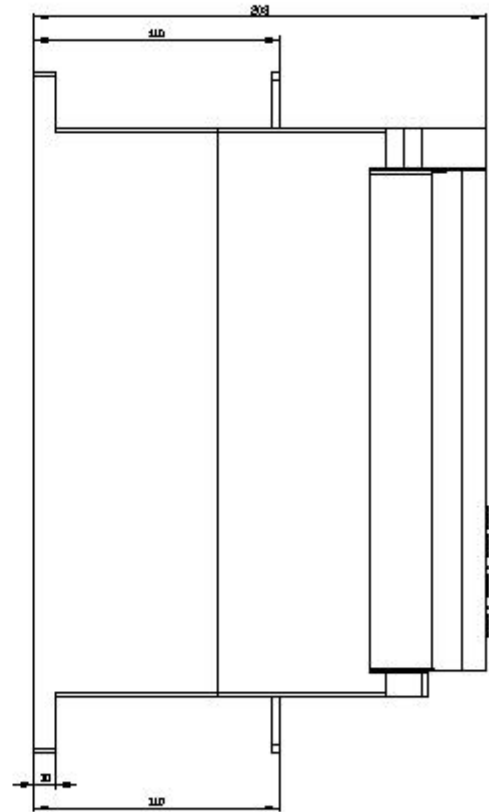
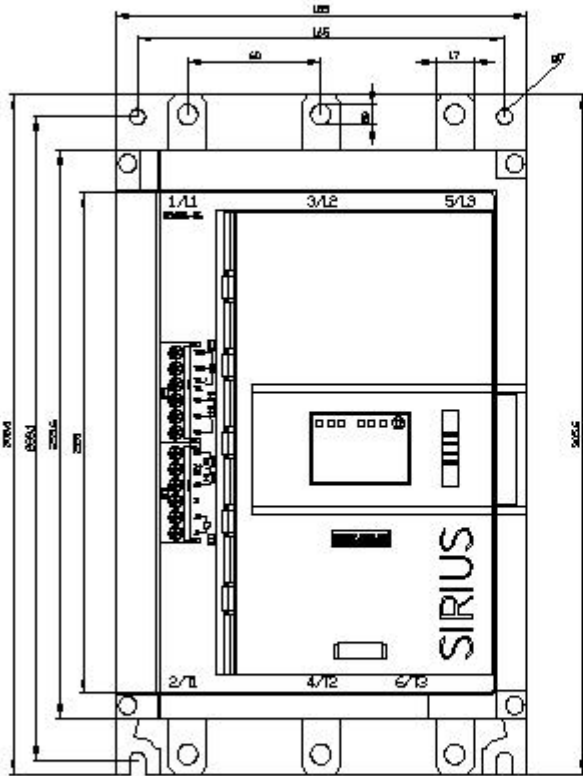
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5234-6TC04/char>

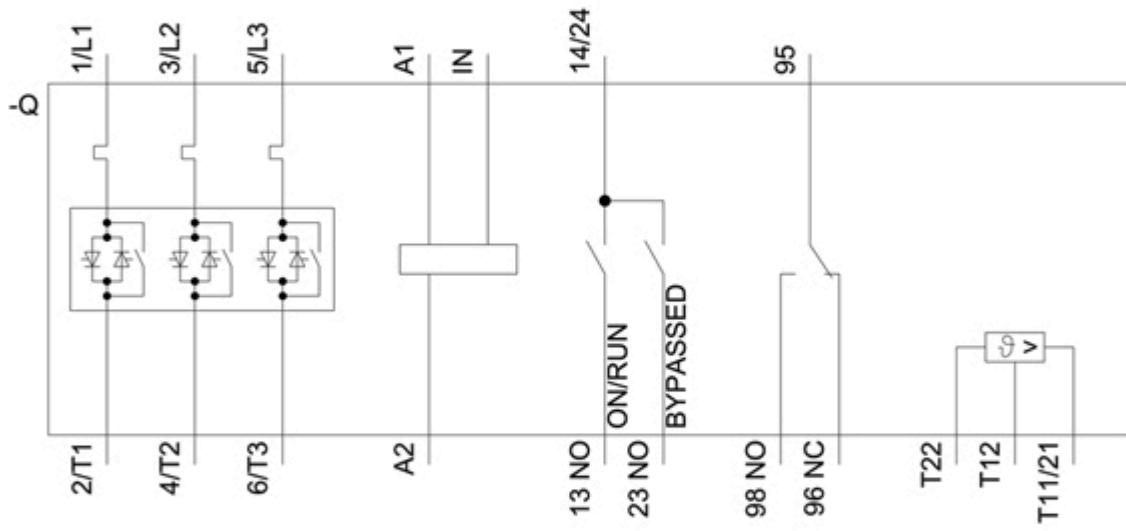
Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5234-6TC04&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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





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