



SIRIUS soft starter 200-480 V 370 A, 24 V AC/DC Screw terminals Analog output

product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW52
manufacturer's article number	<div><ul style="list-style-type: none"><li>• of standard HMI module usable</li><li>• of high feature HMI module usable</li><li>• of communication module PROFINET standard usable</li><li>• of communication module PROFIBUS usable</li><li>• of communication module Modbus TCP usable</li><li>• of communication module Modbus RTU usable</li><li>• of communication module Ethernet/IP</li><li>• of circuit breaker usable at 400 V</li><li>• of circuit breaker usable at 500 V</li><li>• of circuit breaker usable at 400 V at inside-delta circuit</li><li>• of circuit breaker usable at 500 V at inside-delta circuit</li><li>• of the gG fuse usable up to 690 V</li><li>• of the gG fuse usable at inside-delta circuit up to 500 V</li><li>• of full range R fuse link for semiconductor protection usable up to 690 V</li><li>• of back-up R fuse link for semiconductor protection usable up to 690 V</li></ul></div>
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	<div><ul style="list-style-type: none"><li>• CE marking</li><li>• UL approval</li><li>• CSA approval</li></ul></div>
product component is supported	<div><ul style="list-style-type: none"><li>• HMI-Standard</li><li>• HMI-High Feature</li></ul></div>
product feature integrated bypass contact system	

3RW5980-0HS00
3RW5980-0HF00
3RW5980-0CS00
3RW5980-0CP00
3RW5980-0CT00
3RW5980-0CR00
3RW5980-0CE00
3VA2440-7MN32-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10
3VA2440-7MN32-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10
3VA2580-6HN32-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10
3VA2580-6HN32-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10
2x3NA3365-6; Type of coordination 1, Iq = 65 kA
2x3NA3365-6; Type of coordination 1, Iq = 65 kA
3NE1334-2: Type of coordination 2, Iq = 65 kA
3NE3336: Type of coordination 2, Iq = 65 kA

<b>number of controlled phases</b>	3
<b>trip class</b>	CLASS 10A (default) / 10E / 20E; acc. to IEC 60947-4-2
<b>buffering time in the event of power failure</b>	
• for main current circuit	100 ms
• for control circuit	100 ms
<b>insulation voltage rated value</b>	600 V
<b>degree of pollution</b>	3, acc. to IEC 60947-4-2
<b>impulse voltage rated value</b>	6 kV
<b>blocking voltage of the thyristor maximum</b>	1 600 V
<b>service factor</b>	1
<b>surge voltage resistance rated value</b>	6 kV
<b>maximum permissible voltage for safe isolation</b>	
• between main and auxiliary circuit	600 V
<b>shock resistance</b>	15 g / 11 ms, from 12 g / 11 ms with potential contact lifting
<b>vibration resistance</b>	15 mm to 6 Hz; 2g to 500 Hz
<b>utilization category acc. to IEC 60947-4-2</b>	AC 53a
<b>reference code acc. to IEC 81346-2</b>	Q
<b>Substance Prohibitance (Date)</b>	15.02.2018 00:00:00
<b>product function</b>	
• 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; Electronic motor overload protection
• evaluation of thermistor motor protection	No
• 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
• <b>PROFInergy</b>	Yes; in connection with the PROFINET Standard communication module
• <b>firmware update</b>	Yes
• <b>removable terminal for control circuit</b>	Yes
• torque control	No
• analog output	Yes; 4 ... 20 mA (default) / 0 ... 10 V (parameterizable with High Feature HMI)
<b>Power Electronics</b>	
<b>operational current</b>	
• at 40 °C rated value	370 A
• at 50 °C rated value	328 A
• at 60 °C rated value	300 A
<b>operational current at inside-delta circuit</b>	
• at 40 °C rated value	641 A
• at 50 °C rated value	568 A
• at 60 °C rated value	519 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	110 kW
• at 230 V at inside-delta circuit at 40 °C rated value	200 kW
• at 400 V at 40 °C rated value	200 kW
• at 400 V at inside-delta circuit at 40 °C rated value	355 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>adjustable motor current</b>	
• at rotary coding switch on switch position 1	160 A
• at rotary coding switch on switch position 2	174 A
• at rotary coding switch on switch position 3	188 A
• at rotary coding switch on switch position 4	202 A
• at rotary coding switch on switch position 5	216 A
• at rotary coding switch on switch position 6	230 A
• at rotary coding switch on switch position 7	244 A
• at rotary coding switch on switch position 8	258 A
• at rotary coding switch on switch position 9	272 A
• at rotary coding switch on switch position 10	286 A
• at rotary coding switch on switch position 11	300 A
• at rotary coding switch on switch position 12	314 A
• at rotary coding switch on switch position 13	328 A
• at rotary coding switch on switch position 14	342 A
• at rotary coding switch on switch position 15	356 A
• at rotary coding switch on switch position 16	370 A
• minimum	160 A
<b>adjustable motor current</b>	
• for inside-delta circuit at rotary coding switch on switch position 1	277 A
• for inside-delta circuit at rotary coding switch on switch position 2	301 A
• for inside-delta circuit at rotary coding switch on switch position 3	326 A
• for inside-delta circuit at rotary coding switch on switch position 4	350 A
• for inside-delta circuit at rotary coding switch on switch position 5	374 A
• for inside-delta circuit at rotary coding switch on switch position 6	398 A
• for inside-delta circuit at rotary coding switch on switch position 7	423 A
• for inside-delta circuit at rotary coding switch on switch position 8	447 A
• for inside-delta circuit at rotary coding switch on switch position 9	471 A
• for inside-delta circuit at rotary coding switch on switch position 10	495 A
• for inside-delta circuit at rotary coding switch on switch position 11	520 A
• for inside-delta circuit at rotary coding switch on switch position 12	544 A
• for inside-delta circuit at rotary coding switch on switch position 13	568 A
• for inside-delta circuit at rotary coding switch on switch position 14	592 A
• for inside-delta circuit at rotary coding switch on switch position 15	617 A
• for inside-delta circuit at rotary coding switch on switch position 16	641 A

• at inside-delta circuit minimum	277 A
<b>minimum load [%]</b>	15 %; Relative to smallest settable I <sub>e</sub>
<b>power loss [W] for rated value of the current at AC</b>	
• at 40 °C after startup	123 W
• at 50 °C after startup	110 W
• at 60 °C after startup	102 W
<b>power loss [W] at AC at current limitation 350 %</b>	
• at 40 °C during startup	5 575 W
• at 50 °C during startup	4 706 W
• at 60 °C during startup	4 157 W
<b>Control circuit/ Control</b>	
<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>	160 mA
<b>holding current in bypass operation rated value</b>	470 mA
<b>locked-rotor current at close of bypass contact maximum</b>	7.6 A
<b>inrush current peak at application of control supply voltage maximum</b>	3.3 A
<b>duration of inrush current peak at application of control supply voltage</b>	12.1 ms
<b>design of the overvoltage protection</b>	Varistor
<b>design of short-circuit protection for control circuit</b>	4 A gG fuse (I <sub>cu</sub> =1 kA), 6 A quick-acting fuse (I <sub>cu</sub> =1 kA), C1 miniature circuit breaker (I <sub>cu</sub> = 600 A), C6 miniature circuit breaker (I <sub>cu</sub> = 300 A); Is not part of scope of supply
<b>Inputs/ Outputs</b>	
<b>number of digital inputs</b>	1
<b>number of inputs for thermistor connection</b>	0
<b>number of digital outputs</b>	3
• not parameterizable	2
<b>digital output version</b>	2 normally-open contacts (NO) / 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
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
<b>fastening method</b>	screw fixing
<b>height</b>	393 mm

<b>width</b>	210 mm
<b>depth</b>	203 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>	9.9 kg
<b>Connections/ Terminals</b>	
<b>type of electrical connection</b>	
• for main current circuit	busbar connection
• for control circuit	screw-type terminals
<b>width of connection bar maximum</b>	45 mm
<b>type of connectable conductor cross-sections</b>	
• for DIN cable lug for main contacts stranded	2x (50 ... 240 mm <sup>2</sup> )
• for DIN cable lug for main contacts finely stranded	2x (70 ... 240 mm <sup>2</sup> )
<b>type of connectable conductor cross-sections</b>	
• for control circuit solid	1x (0.5 ... 4.0 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )
• for control circuit finely stranded with core end processing	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )
• at AWG cables for control circuit solid	1x (20 ... 12), 2x (20 ... 14)
<b>wire length</b>	
• between soft starter and motor maximum	800 m
• at the digital inputs at AC maximum	100 m
• at the digital inputs at DC maximum	1 000 m
<b>tightening torque</b>	
• 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
<b>tightening torque [lbf·in]</b>	
• for main contacts with screw-type terminals	124 ... 210 lbf·in
• for auxiliary and control contacts with screw-type terminals	7 ... 10.3 lbf·in
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	5 000 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 acc. 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 acc. to IEC 60721	1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4
• during transport acc. 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
<b>Communication/ Protocol</b>	
<b>communication module is supported</b>	
• PROFINET standard	Yes
• EtherNet/IP	Yes
• Modbus RTU	Yes
• Modbus TCP	Yes
• PROFIBUS	Yes
<b>UL/CSA ratings</b>	
<b>manufacturer's article number</b>	
• <b>of the fuse</b>	
— usable for Standard Faults up to 575/600 V according to UL	Type: Class J / L, max. 1200 A; Iq = 18 kA

— usable for High Faults up to 575/600 V according to UL	Type: Class J / L, max. 1200 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. 1200 A; Iq = 18 kA	
— usable for High Faults at inside-delta circuit up to 575/600 V according to UL	Type: Class J / L, max. 1200 A; Iq = 100 kA	
<b>operating power [hp] for 3-phase motors</b>		
• at 200/208 V at 50 °C rated value	100 hp	
• at 220/230 V at 50 °C rated value	125 hp	
• at 460/480 V at 50 °C rated value	250 hp	
• at 200/208 V at inside-delta circuit at 50 °C rated value	200 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	450 hp	
<b>contact rating of auxiliary contacts according to UL</b>	R300-B300	
<b>Safety related data</b>		
<b>protection class IP on the front acc. to IEC 60529</b>	IP00; IP20 with cover	
<b>touch protection on the front acc. to IEC 60529</b>	finger-safe, for vertical contact from the front with cover	
<b>electromagnetic compatibility</b>	in accordance with IEC 60947-4-2	
<b>Certificates/ approvals</b>		
<b>General Product Approval</b>	<b>EMC</b>	<b>Declaration of Conformity</b>



#### Test Certificates

#### Marine / Shipping

[Type Test Certificates/Test Report](#)



#### other

[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?mlfb=3RW5246-6AC04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5246-6AC04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5246-6AC04>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5246-6AC04&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5246-6AC04&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5246-6AC04/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5246-6AC04&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)



