

Siemens  
EcoTech



SIRIUS soft starter 200-480 V 113 A, 24 V AC/DC spring-type terminals Analog output



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"><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 400 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>	<a href="#">3RW5980-0HS00</a> <a href="#">3RW5980-0HF00</a> <a href="#">3RW5980-0CS00</a> <a href="#">3RW5980-0CP00</a> <a href="#">3RW5980-0CT00</a> <a href="#">3RW5980-0CR00</a> <a href="#">3RW5980-0CE00</a> <a href="#">3VA2216-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10</a> <a href="#">3VA2220-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10</a> <a href="#">3NA3244-6; Type of coordination 1, Iq = 65 kA</a> <a href="#">3NA3244-6; Type of coordination 1, Iq = 65 kA</a> <a href="#">3NE1225-0; Type of coordination 2, Iq = 65 kA</a> <a href="#">3NE3332-0B; Type of coordination 2, Iq = 65 kA</a>
General technical data	
starting voltage [%]	30 ... 100 %
stopping voltage [%]	50 %; non-adjustable
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"><li>• CE marking</li><li>• UL approval</li><li>• CSA approval</li></ul>	Yes Yes Yes
product component	
<ul style="list-style-type: none"><li>• HMI-High Feature</li><li>• is supported HMI-Standard</li><li>• is supported HMI-High Feature</li></ul>	No Yes Yes
product feature integrated bypass contact system	Yes
number of controlled phases	3
buffering time in the event of power failure	
<ul style="list-style-type: none"><li>• for main current circuit</li><li>• for control circuit</li></ul>	100 ms 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>	1 400 V
<b>service factor</b>	1
<b>surge voltage resistance rated value</b>	6 kV
<b>maximum permissible voltage for protective separation</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
utilization category according to IEC 60947-4-2	AC 53a
<b>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibitance (Date)</b>	02/15/2018
<b>SVHC substance name</b>	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 Dibutylbis(pentane-2,4-dionato-O,O')tin - 22673-19-4
<b>Weight</b>	7.64 kg
<b>product function</b> • ramp-up (soft starting) • ramp-down (soft stop) • Soft Torque • adjustable current limitation • pump ramp down • intrinsic device protection • motor overload protection • evaluation of thermistor motor protection • inside-delta circuit • auto-RESET • manual RESET • remote reset • communication function • operating measured value display • error logbook • via software parameterizable • via software configurable • <b>PROFInergy</b> • <b>firmware update</b> • <b>removable terminal for control circuit</b> • torque control • analog output	Yes Yes Yes Yes Yes Yes Yes; Electronic motor overload protection No Yes Yes Yes Yes; By turning off the control supply voltage Yes Yes; Only in conjunction with special accessories Yes; Only in conjunction with special accessories No Yes Yes; in connection with the PROFINET Standard communication module Yes Yes No 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 • at 50 °C rated value • at 60 °C rated value	113 A 101 A 89 A
<b>operational current at inside-delta circuit</b> • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value	196 A 175 A 154 A
<b>operating voltage</b> • rated value • at inside-delta circuit rated value	200 ... 480 V 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 • at 230 V at inside-delta circuit at 40 °C rated value	30 kW 55 kW

• at 400 V at 40 °C rated value	55 kW
• at 400 V at inside-delta circuit at 40 °C rated value	110 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	53 A
• at rotary coding switch on switch position 2	57 A
• at rotary coding switch on switch position 3	61 A
• at rotary coding switch on switch position 4	65 A
• at rotary coding switch on switch position 5	69 A
• at rotary coding switch on switch position 6	73 A
• at rotary coding switch on switch position 7	77 A
• at rotary coding switch on switch position 8	81 A
• at rotary coding switch on switch position 9	85 A
• at rotary coding switch on switch position 10	89 A
• at rotary coding switch on switch position 11	93 A
• at rotary coding switch on switch position 12	97 A
• at rotary coding switch on switch position 13	101 A
• at rotary coding switch on switch position 14	105 A
• at rotary coding switch on switch position 15	109 A
• at rotary coding switch on switch position 16	113 A
• minimum	53 A
<b>adjustable motor current</b>	
• for inside-delta circuit at rotary coding switch on switch position 1	91.8 A
• for inside-delta circuit at rotary coding switch on switch position 2	98.7 A
• for inside-delta circuit at rotary coding switch on switch position 3	106 A
• for inside-delta circuit at rotary coding switch on switch position 4	113 A
• for inside-delta circuit at rotary coding switch on switch position 5	120 A
• for inside-delta circuit at rotary coding switch on switch position 6	126 A
• for inside-delta circuit at rotary coding switch on switch position 7	133 A
• for inside-delta circuit at rotary coding switch on switch position 8	140 A
• for inside-delta circuit at rotary coding switch on switch position 9	147 A
• for inside-delta circuit at rotary coding switch on switch position 10	154 A
• for inside-delta circuit at rotary coding switch on switch position 11	161 A
• for inside-delta circuit at rotary coding switch on switch position 12	168 A
• for inside-delta circuit at rotary coding switch on switch position 13	175 A
• for inside-delta circuit at rotary coding switch on switch position 14	182 A
• for inside-delta circuit at rotary coding switch on switch position 15	189 A
• for inside-delta circuit at rotary coding switch on switch position 16	196 A
• at inside-delta circuit minimum	91.8 A
<b>minimum load [%]</b>	15 %; Relative to smallest settable Ie
<b>power loss [W] for rated value of the current at AC</b>	
• at 40 °C after startup	46 W
• at 50 °C after startup	42 W
• at 60 °C after startup	39 W
<b>power loss [W] at AC at current limitation 350 %</b>	
• at 40 °C during startup	1 512 W
• at 50 °C during startup	1 291 W

• at 60 °C during startup	1 086 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 at DC rated value</b>	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>	380 mA
<b>inrush current by closing the bypass contacts maximum</b>	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
<b>design of the overvoltage protection</b>	Varistor
<b>design of short-circuit protection for control circuit</b>	4 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply
<b>Inputs/ Outputs</b>	
<b>number of digital inputs</b>	1
<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>	306 mm
<b>width</b>	185 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>	6.6 kg
<b>Connections/ Terminals</b>	
<b>type of electrical connection</b>	
• for main current circuit	busbar connection
• for control circuit	spring-loaded terminals
<b>width of connection bar maximum</b>	25 mm
<b>type of connectable conductor cross-sections</b>	

<ul style="list-style-type: none"> <li>• for DIN cable lug for main contacts stranded</li> <li>• for DIN cable lug for main contacts finely stranded</li> </ul>	2x (16 ... 95 mm²) 2x (25 ... 120 mm²)
<b>type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• for control circuit solid</li> <li>• for control circuit finely stranded with core end processing</li> <li>• for AWG cables for control circuit solid</li> <li>• for AWG cables for control circuit finely stranded with core end processing</li> </ul>	2x (0.25 ... 1.5 mm²) 2x (0.25 ... 1.5 mm²) 2x (24 ... 16) 2x (24 ... 16)
<b>wire length</b> <ul style="list-style-type: none"> <li>• between soft starter and motor maximum</li> <li>• at the digital inputs at AC maximum</li> <li>• at the digital inputs at DC maximum</li> </ul>	800 m 100 m 1 000 m
<b>tightening torque</b> <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> <li>• for auxiliary and control contacts with screw-type terminals</li> </ul>	10 ... 14 N·m 0.8 ... 1.2 N·m
<b>tightening torque [lbf·in]</b> <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> <li>• for auxiliary and control contacts with screw-type terminals</li> </ul>	89 ... 124 lbf·in 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> <ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage and transport</li> </ul>	-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above -40 ... +80 °C
<b>environmental category</b> <ul style="list-style-type: none"> <li>• during operation according to IEC 60721</li> <li>• during storage according to IEC 60721</li> <li>• during transport according to IEC 60721</li> </ul>	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)
<b>Environmental footprint</b>	
Global Warming Potential [CO2 eq] total	296 kg
Global Warming Potential [CO2 eq] during manufacturing	67.7 kg
global warming potential [CO2 eq] during sales	1.84 kg
Global Warming Potential [CO2 eq] during operation	242 kg
Global Warming Potential [CO2 eq] after end of life	-15.7 kg
Siemens Eco Profile (SEP)	Siemens EcoTech
<b>Electromagnetic compatibility</b>	
<b>EMC emitted interference</b>	acc. to IEC 60947-4-2: Class A
<b>Communication/ Protocol</b>	
<b>communication module is supported</b> <ul style="list-style-type: none"> <li>• PROFINET standard</li> <li>• EtherNet/IP</li> <li>• Modbus RTU</li> <li>• Modbus TCP</li> <li>• PROFIBUS</li> </ul>	Yes Yes Yes Yes Yes
<b>UL/CSA ratings</b>	
<b>manufacturer's article number</b> <ul style="list-style-type: none"> <li>• <b>of circuit breaker usable for Standard Faults</b> <ul style="list-style-type: none"> <li>— at 460/480 V according to UL</li> <li>— 60/480 V according to UL</li> <li>— at 460/480 V at inside-delta circuit according to UL</li> <li>— 60/480 V at inside-delta circuit according to UL</li> <li>— at 575/600 V according to UL</li> <li>— at 575/600 V at inside-delta circuit according to UL</li> </ul> </li> <li>• <b>of the fuse</b> <ul style="list-style-type: none"> <li>— usable for Standard Faults up to 575/600 V according to UL</li> <li>— usable for High Faults up to 575/600 V according to UL</li> <li>— usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL</li> </ul> </li> </ul>	Siemens type: 3VA52, max. 250 A; Iq = 10 kA 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 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

— usable for High Faults at inside-delta circuit up to 575/600 V according to UL	Type: Class J / L, max. 350 A; Iq = 100 kA
<b>operating power [hp] for 3-phase motors</b>	
• at 200/208 V at 50 °C rated value	30 hp
• at 220/230 V at 50 °C rated value	30 hp
• at 460/480 V at 50 °C rated value	75 hp
• at 200/208 V at inside-delta circuit at 50 °C rated value	50 hp
• at 220/230 V at inside-delta circuit at 50 °C rated value	60 hp
• at 460/480 V at inside-delta circuit at 50 °C rated value	125 hp
<b>contact rating of auxiliary contacts according to UL</b>	R300-B300
<b>Electrical Safety</b>	
<b>protection class IP on the front according to IEC 60529</b>	IP00; IP20 with cover
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front with cover
<b>Approvals Certificates</b>	
<b>General Product Approval</b>	



[Confirmation](#)



EMV	Test Certificates	Marine / Shipping
	<a href="#">KC</a> <a href="#">Type Test Certificates/Test Report</a>	
Marine / Shipping	other	Environment



[Confirmation](#)



[Environmental Confirmations](#)

#### 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=3RW5234-2AC04>

##### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5234-2AC04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5234-2AC04>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5234-2AC04&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5234-2AC04&lang=en)

##### Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5234-2AC04/char>

##### Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5234-2AC04&objecttype=14&gridview=view1>

##### Simulation Tool for Soft Starters (STS)

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







