

Siemens
EcoTech



SIRIUS soft starter 200-600 V 113 A, 24 V AC/DC spring-type terminals Analog output



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| 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 • of high feature HMI module 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 400 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 | <ul style="list-style-type: none"> 3RW5980-0HS00 3RW5980-0HF00 3RW5980-0CS00 3RW5980-0CP00 3RW5980-0CT00 3RW5980-0CR00 3RW5980-0CE00 3VA2216-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 3VA2220-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 3NA3244-6; Type of coordination 1, Iq = 65 kA 3NA3244-6; Type of coordination 1, Iq = 65 kA 3NE1225-0; Type of coordination 2, Iq = 65 kA 3NE3332-0B; Type of coordination 2, Iq = 65 kA |
| 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"> • CE marking • UL approval • CSA approval | <ul style="list-style-type: none"> Yes Yes Yes |
| product component | |
| <ul style="list-style-type: none"> • HMI-High Feature • is supported HMI-Standard • is supported HMI-High Feature | <ul style="list-style-type: none"> 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"> • for main current circuit • for control circuit | <ul style="list-style-type: none"> 100 ms 100 ms |

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| 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 | 1 800 V |
| service factor | 1 |
| surge voltage resistance rated value | 6 kV |
| maximum permissible voltage for protective separation | |
| • between main and auxiliary circuit | 600 V |
| 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 |
| utilization category according to IEC 60947-4-2 | AC 53a |
| reference code according to IEC 81346-2 | Q |
| Substance Prohibittance (Date) | 02/15/2018 |
| SVHC substance name | Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 Dibutylbis(pentane-2,4-dionato-O,O')tin - 22673-19-4 |
| Weight | 6.6 kg |
| 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; 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 |
| • PROFInergy | Yes; in connection with the PROFINET Standard communication module |
| • firmware update | Yes |
| • removable terminal for control circuit | Yes |
| • torque control | No |
| • analog output | Yes; 4 ... 20 mA (default) / 0 ... 10 V (parameterizable with High Feature HMI) |
| Power Electronics | |
| operational current | |
| • at 40 °C rated value | 113 A |
| • at 50 °C rated value | 101 A |
| • at 60 °C rated value | 89 A |
| operational current at inside-delta circuit | |
| • at 40 °C rated value | 196 A |
| • at 50 °C rated value | 175 A |
| • at 60 °C rated value | 154 A |
| operating voltage | |
| • rated value | 200 ... 600 V |
| • at inside-delta circuit rated value | 200 ... 600 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 | |
| • at 230 V at 40 °C rated value | 30 kW |

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| <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 |
| <ul style="list-style-type: none"> • at 500 V at 40 °C rated value | 75 kW |
| <ul style="list-style-type: none"> • at 500 V at inside-delta circuit at 40 °C rated value | 132 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 |

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| power loss [W] at AC at current limitation 350 % | |
| <ul style="list-style-type: none"> • at 40 °C during startup • at 50 °C during startup • at 60 °C during startup | 1 512 W 1 291 W 1 086 W |
| Control circuit/ Control | |
| type of voltage of the control supply voltage | AC/DC |
| control supply voltage at AC | |
| <ul style="list-style-type: none"> • at 50 Hz rated value • at 60 Hz rated value | 24 V 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 bypass operation rated value | 380 mA |
| inrush current by closing the bypass contacts 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 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 | 1 |
| switching capacity current of the relay outputs | |
| <ul style="list-style-type: none"> • at AC-15 at 250 V rated value • at DC-13 at 24 V rated value | 3 A 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 • backwards • upwards • downwards • at the side | 10 mm 0 mm 100 mm 75 mm 5 mm |
| weight without packaging | 6.6 kg |
| Connections/ Terminals | |
| type of electrical connection | |
| <ul style="list-style-type: none"> • for main current circuit | busbar connection |

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| <ul style="list-style-type: none"> for control circuit | spring-loaded terminals |
| width of connection bar maximum | 25 mm |
| 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 | 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"> for AWG cables for control circuit solid | 2x (24 ... 16) |
| <ul style="list-style-type: none"> for AWG cables for control circuit finely stranded with core end processing | 2x (24 ... 16) |
| 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 |
| ambient temperature | |
| <ul style="list-style-type: none"> during operation | -25 ... +60 °C; Please observe derating at temperatures of 40 °C or above |
| <ul style="list-style-type: none"> during storage and transport | -40 ... +80 °C |
| environmental category | |
| <ul style="list-style-type: none"> 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 |
| <ul style="list-style-type: none"> during storage according 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 according to IEC 60721 | 2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m) |
| Environmental footprint | |
| 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 |
| Electromagnetic compatibility | |
| 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 usable for Standard Faults <ul style="list-style-type: none"> at 460/480 V according to UL at 460/480 V according to UL at 460/480 V at inside-delta circuit according to UL 60/480 V at inside-delta circuit according to UL at 575/600 V according to UL at 575/600 V at inside-delta circuit according to 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 |
| <ul style="list-style-type: none"> of the fuse <ul style="list-style-type: none"> usable for Standard Faults up to 575/600 V according to UL | Type: Class RK5 / K5, max. 350 A; Iq = 10 kA |

- 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

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 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 575/600 V at 50 °C rated value 100 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
- at 575/600 V at inside-delta circuit at 50 °C rated value 150 hp

contact rating of auxiliary contacts according to UL R300-B300

Electrical Safety

protection class IP on the front according to IEC 60529 IP00; IP20 with cover

touch protection on the front according to IEC 60529 finger-safe, for vertical contact from the front with cover

Approvals Certificates

General Product Approval

EMV



EMV

Test Certificates

Maritime application

[KC](#)

[Type Test Certificates/Test Report](#)



other

Environment



[Confirmation](#)



[Environmental Confirmations](#)

Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RW5234-2AC05>

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5234-2AC05>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5234-2AC05>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5234-2AC05&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5234-2AC05/char>

Characteristic: Installation altitude

<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5234-2AC05&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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



