

Siemens
EcoTech



SIRIUS soft starter 200-600 V 63 A, 24 V AC/DC Screw 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 3RW5980-0HS00 • of high feature HMI module usable 3RW5980-0HF00 • of communication module PROFINET standard usable 3RW5980-0CS00 • of communication module PROFIBUS usable 3RW5980-0CP00 • of communication module Modbus TCP usable 3RW5980-0CT00 • of communication module Modbus RTU usable 3RW5980-0CR00 • of communication module Ethernet/IP 3RW5980-0CE00 • of circuit breaker usable at 400 V 3VA2163-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 • of circuit breaker usable at 500 V 3VA2163-7MN32-0AA0; Type of coordination 1, Iq = 20 kA, CLASS 10 • of circuit breaker usable at 400 V at inside-delta circuit 3VA2110-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 • of circuit breaker usable at 500 V at inside-delta circuit 3VA2110-7MN32-0AA0; Type of coordination 1, Iq = 20 kA, CLASS 10 • of the gG fuse usable up to 690 V 3NA3830-6; Type of coordination 1, Iq = 65 kA • of the gG fuse usable at inside-delta circuit up to 500 V 3NA3830-6; Type of coordination 1, Iq = 65 kA • of full range R fuse link for semiconductor protection usable up to 690 V 3NE1022-0; Type of coordination 2, Iq = 65 kA • of back-up R fuse link for semiconductor protection usable up to 690 V 3NE8024-1; 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 | |
| • CE marking | Yes |
| • UL approval | Yes |
| • CSA approval | Yes |
| product component | |
| • HMI-High Feature | No |
| • is supported HMI-Standard | Yes |
| • is supported HMI-High Feature | Yes |
| product feature integrated bypass contact system | Yes |
| number of controlled phases | 3 |

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| buffering time in the event of power failure | |
| • for main current circuit | 100 ms |
| • for control circuit | 100 ms |
| 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 Prohibitance (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 | 5.2 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 | 63 A |
| • at 50 °C rated value | 55.5 A |
| • at 60 °C rated value | 50.5 A |
| operational current at inside-delta circuit | |
| • at 40 °C rated value | 109 A |
| • at 50 °C rated value | 96 A |
| • at 60 °C rated value | 87.5 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 % |

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| 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 | 18.5 kW |
| • at 230 V at inside-delta circuit at 40 °C rated value | 30 kW |
| • at 400 V at 40 °C rated value | 30 kW |
| • at 400 V at inside-delta circuit at 40 °C rated value | 55 kW |
| • at 500 V at 40 °C rated value | 37 kW |
| • at 500 V at inside-delta circuit at 40 °C rated value | 55 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 | |
| • at rotary coding switch on switch position 1 | 25.5 A |
| • at rotary coding switch on switch position 2 | 28 A |
| • at rotary coding switch on switch position 3 | 30.5 A |
| • at rotary coding switch on switch position 4 | 33 A |
| • at rotary coding switch on switch position 5 | 35.5 A |
| • at rotary coding switch on switch position 6 | 38 A |
| • at rotary coding switch on switch position 7 | 40.5 A |
| • at rotary coding switch on switch position 8 | 43 A |
| • at rotary coding switch on switch position 9 | 45.5 A |
| • at rotary coding switch on switch position 10 | 48 A |
| • at rotary coding switch on switch position 11 | 50.5 A |
| • at rotary coding switch on switch position 12 | 53 A |
| • at rotary coding switch on switch position 13 | 55.5 A |
| • at rotary coding switch on switch position 14 | 58 A |
| • at rotary coding switch on switch position 15 | 60.5 A |
| • at rotary coding switch on switch position 16 | 63 A |
| • minimum | 25.5 A |
| adjustable motor current | |
| • for inside-delta circuit at rotary coding switch on switch position 1 | 44.2 A |
| • for inside-delta circuit at rotary coding switch on switch position 2 | 48.5 A |
| • for inside-delta circuit at rotary coding switch on switch position 3 | 52.8 A |
| • for inside-delta circuit at rotary coding switch on switch position 4 | 57.2 A |
| • for inside-delta circuit at rotary coding switch on switch position 5 | 61.5 A |
| • for inside-delta circuit at rotary coding switch on switch position 6 | 65.8 A |
| • for inside-delta circuit at rotary coding switch on switch position 7 | 70.1 A |
| • for inside-delta circuit at rotary coding switch on switch position 8 | 74.5 A |
| • for inside-delta circuit at rotary coding switch on switch position 9 | 78.8 A |
| • for inside-delta circuit at rotary coding switch on switch position 10 | 83.1 A |
| • for inside-delta circuit at rotary coding switch on switch position 11 | 87.5 A |
| • for inside-delta circuit at rotary coding switch on switch position 12 | 91.8 A |
| • for inside-delta circuit at rotary coding switch on switch position 13 | 96.1 A |
| • for inside-delta circuit at rotary coding switch on switch position 14 | 100 A |
| • for inside-delta circuit at rotary coding switch on switch position 15 | 105 A |

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| <ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 16 • at inside-delta circuit minimum | 109 A 44.2 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 • at 50 °C after startup • at 60 °C after startup | 31 W 29 W 27 W |
| 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 | 882 W 744 W 659 W |

Control circuit/ Control

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| 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 (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 |

Inputs/ Outputs

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| 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

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| mounting position | +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface |
| fastening method | screw fixing |
| height | 306 mm |
| width | 185 mm |
| depth | 203 mm |
| required spacing with side-by-side mounting | |

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|---|---|
| <ul style="list-style-type: none"> • forwards • backwards • upwards • downwards • at the side | <p>10 mm</p> <p>0 mm</p> <p>100 mm</p> <p>75 mm</p> <p>5 mm</p> |
| weight without packaging | 5.6 kg |
| Connections/ Terminals | |
| type of electrical connection | |
| <ul style="list-style-type: none"> • for main current circuit • for control circuit | <p>box terminal</p> <p>screw-type terminals</p> |
| width of connection bar maximum | 25 mm |
| type of connectable conductor cross-sections for main contacts for box terminal | |
| <ul style="list-style-type: none"> • using the front clamping point solid • using the front clamping point finely stranded with core end processing • using the front clamping point stranded • using the back clamping point solid • r box terminal using the back clamping point • using both clamping points solid • using both clamping points finely stranded with core end processing • using both clamping points stranded • using the back clamping point finely stranded with core end processing • using the back clamping point stranded | <p>1x (2.5 ... 16 mm²)</p> <p>1x (2.5 ... 50 mm²)</p> <p>1x (10 ... 70 mm²)</p> <p>1x (2.5 ... 16 mm²)</p> <p>1x (10 ... 2/0)</p> <p>2x (2.5 ... 16 mm²)</p> <p>2x (2.5 ... 35 mm²)</p> <p>2x (6 ... 16 mm²), 2x (10 ... 50 mm²)</p> <p>1x (2.5 ... 50 mm²)</p> <p>1x (10 ... 70 mm²)</p> |
| type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • for control circuit solid • for control circuit finely stranded with core end processing • for AWG cables for control circuit solid | <p>1x (0.5 ... 4.0 mm²), 2x (0.5 ... 2.5 mm²)</p> <p>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)</p> <p>1x (20 ... 12), 2x (20 ... 14)</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>4.5 ... 6 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>40 ... 53 lbf·in</p> <p>7 ... 10.3 lbf·in</p> |
| 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 • 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 according to IEC 60721 • during storage according to IEC 60721 • during transport according 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> |
| 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 | |

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| EMC emitted interference | acc. to IEC 60947-4-2: Class A |
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Communication/ Protocol

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| 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

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|--|---|
| 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 — 60/480 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 • of the fuse <ul style="list-style-type: none"> — 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 | <p>Siemens type: 3RV2742, max. 70 A or 3VA51, max. 125 A; Iq = 10 kA</p> <p>Siemens type: 3VA51, max. 125 A; Iq max = 65 kA</p> <p>Siemens type: 3VA51, max. 125 A; Iq = 10 kA</p> <p>Siemens type: 3VA51, max. 125 A; Iq max = 65 kA</p> <p>Siemens type: 3RV2742, max. 70 A or 3VA51, max. 125 A; Iq = 10 kA</p> <p>Siemens type: 3VA51, max. 125 A; Iq = 10 kA</p> <p>Type: Class RK5 / K5, max. 200 A; Iq = 10 kA</p> <p>Type: Class J / L, max. 225 A; Iq = 100 kA</p> <p>Type: Class RK5 / K5, max. 200 A; Iq = 10 kA</p> <p>Type: Class J / L, max. 225 A; Iq = 100 kA</p> |

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| operating power [hp] for 3-phase motors | |
| <ul style="list-style-type: none"> • 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 575/600 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 • at 575/600 V at inside-delta circuit at 50 °C rated value | <p>15 hp</p> <p>20 hp</p> <p>40 hp</p> <p>50 hp</p> <p>30 hp</p> <p>30 hp</p> <p>75 hp</p> <p>75 hp</p> |

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| contact rating of auxiliary contacts according to UL | R300-B300 |
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Electrical Safety

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| protection class IP on the front according to IEC 60529 | IP00; IP20 with cover |
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| touch protection on the front according to IEC 60529 | finger-safe, for vertical contact from the front with cover |
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Approvals Certificates

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| General Product Approval | EMV |
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EMV **Test Certificates** **Maritime application**

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other **Environment**



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