



SIRIUS soft starter 200-600 V 143 A, 24 V AC/DC spring-type terminals
Thermistor input

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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 |
| 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 • UL approval • CSA approval |
| product component is supported | <ul style="list-style-type: none"> • HMI-Standard • HMI-High Feature |
| 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 | |

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| <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 | 1 800 V |
| surge voltage resistance rated value | 1 |
| maximum permissible voltage for safe isolation <ul style="list-style-type: none"> • between main and auxiliary circuit | 6 kV |
| shock resistance | 600 V |
| vibration resistance | 15 g / 11 ms, from 12 g / 11 ms with potential contact lifting |
| utilization category acc. to IEC 60947-4-2 | 15 mm to 6 Hz; 2g to 500 Hz |
| reference code acc. to IEC 81346-2 | AC 53a |
| Substance Prohibitance (Date) | 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 • 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 • PROFinergy • firmware update • removable terminal for control circuit • torque control • analog output | 15.02.2018 00:00:00 Yes Yes Yes Yes Yes Yes Yes; Full motor protection (thermistor motor protection and electronic motor overload protection) Yes; Type A PTC or Klaxon / Thermoclick 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 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 | 143 A 128 A 118 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 | 248 A 222 A 204 A |
| operating voltage <ul style="list-style-type: none"> • rated value • at inside-delta circuit rated value | 200 ... 600 V 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 | |

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| <ul style="list-style-type: none"> • at 230 V at 40 °C rated value • at 230 V at inside-delta circuit at 40 °C rated value • at 400 V at 40 °C rated value • at 400 V at inside-delta circuit at 40 °C rated value • at 500 V at 40 °C rated value • at 500 V at inside-delta circuit at 40 °C rated value | 37 kW 75 kW 75 kW 132 kW 90 kW 160 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 • at rotary coding switch on switch position 2 • at rotary coding switch on switch position 3 • at rotary coding switch on switch position 4 • at rotary coding switch on switch position 5 • at rotary coding switch on switch position 6 • at rotary coding switch on switch position 7 • at rotary coding switch on switch position 8 • at rotary coding switch on switch position 9 • at rotary coding switch on switch position 10 • at rotary coding switch on switch position 11 • at rotary coding switch on switch position 12 • at rotary coding switch on switch position 13 • at rotary coding switch on switch position 14 • at rotary coding switch on switch position 15 • at rotary coding switch on switch position 16 • minimum | 68 A 73 A 78 A 83 A 88 A 93 A 98 A 103 A 108 A 113 A 118 A 123 A 128 A 133 A 138 A 143 A 68 A |
| adjustable motor current | |
| <ul style="list-style-type: none"> • for inside-delta circuit at rotary coding switch on switch position 1 • for inside-delta circuit at rotary coding switch on switch position 2 • for inside-delta circuit at rotary coding switch on switch position 3 • for inside-delta circuit at rotary coding switch on switch position 4 • for inside-delta circuit at rotary coding switch on switch position 5 • for inside-delta circuit at rotary coding switch on switch position 6 • for inside-delta circuit at rotary coding switch on switch position 7 • for inside-delta circuit at rotary coding switch on switch position 8 • for inside-delta circuit at rotary coding switch on switch position 9 • for inside-delta circuit at rotary coding switch on switch position 10 • for inside-delta circuit at rotary coding switch on switch position 11 • for inside-delta circuit at rotary coding switch on switch position 12 • for inside-delta circuit at rotary coding switch on switch position 13 • for inside-delta circuit at rotary coding switch on switch position 14 • for inside-delta circuit at rotary coding switch on switch position 15 • for inside-delta circuit at rotary coding switch on switch position 16 • at inside-delta circuit minimum | 118 A 126 A 135 A 144 A 152 A 161 A 170 A 178 A 187 A 196 A 204 A 213 A 222 A 230 A 239 A 248 A 118 A |

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| minimum load [%] | 15 %; Relative to smallest settable I _e |
| power loss [W] for rated value of the current at AC | |
| • at 40 °C after startup | 55 W |
| • at 50 °C after startup | 50 W |
| • at 60 °C after startup | 47 W |
| power loss [W] at AC at current limitation 350 % | |
| • at 40 °C during startup | 2 127 W |
| • at 50 °C during startup | 1 807 W |
| • at 60 °C during startup | 1 605 W |
| Control circuit/ Control | |
| type of voltage of the control supply voltage | AC/DC |
| control supply voltage at AC | |
| • at 50 Hz rated value | 24 V |
| • 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 % |
| 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 Klaxon / Thermoclick |
| number of digital outputs | 3 |
| • 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 | |
| • at AC-15 at 250 V rated value | 3 A |
| • 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 |

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| depth | 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 |
| weight without packaging | 6.6 kg |
| Connections/ Terminals | |
| type of electrical connection | |
| • for main current circuit | busbar connection |
| • for control circuit | spring-loaded terminals |
| width of connection bar maximum | 25 mm |
| wire length for thermistor connection | |
| • with conductor cross-section = 0.5 mm ² maximum | 50 m |
| • with conductor cross-section = 1.5 mm ² maximum | 150 m |
| • with conductor cross-section = 2.5 mm ² maximum | 250 m |
| type of connectable conductor cross-sections | |
| • for DIN cable lug for main contacts stranded | 2x (16 ... 95 mm ²) |
| • for DIN cable lug for main contacts finely stranded | 2x (25 ... 120 mm ²) |
| type of connectable conductor cross-sections | |
| • for control circuit solid | 2x (0.25 ... 1.5 mm ²) |
| • for control circuit finely stranded with core end processing | 2x (0.25 ... 1.5 mm ²) |
| • at AWG cables for control circuit solid | 2x (24 ... 16) |
| • at AWG cables for control circuit finely stranded with core end processing | 2x (24 ... 16) |
| wire length | |
| • 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 |
| tightening torque | |
| • for main contacts with screw-type terminals | 10 ... 14 N·m |
| • for auxiliary and control contacts with screw-type terminals | 0.8 ... 1.2 N·m |
| tightening torque [lbf·in] | |
| • for main contacts with screw-type terminals | 89 ... 124 lbf·in |
| • 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 | |
| • during operation | -25 ... +60 °C; Please observe derating at temperatures of 40 °C or above |
| • during storage and transport | -40 ... +80 °C |
| environmental category | |
| • 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) |
| EMC emitted interference | acc. to IEC 60947-4-2: Class A |
| Communication/ Protocol | |
| communication module is supported | |
| • PROFINET standard | Yes |
| • EtherNet/IP | Yes |
| • Modbus RTU | Yes |
| • Modbus TCP | Yes |
| • PROFIBUS | Yes |

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| manufacturer's article number | | |
| ● of circuit breaker | Siemens type: 3VA52, max. 250 A; Iq = 10 kA | |
| — usable for Standard Faults at 460/480 V according to UL | Siemens type: 3VA52, max. 250 A; Iq max = 65 kA | |
| — usable for High Faults at 460/480 V according to UL | Siemens type: 3VA52, max. 250 A; Iq = 10 kA | |
| — usable for Standard Faults at 460/480 V at inside-delta circuit according to UL | Siemens type: 3VA52, max. 250 A; Iq max = 65 kA | |
| — usable for High Faults at 460/480 V at inside-delta circuit according to UL | Siemens type: 3VA52, max. 250 A; Iq = 10 kA | |
| — usable for Standard Faults at 575/600 V according to UL | Siemens type: 3VA52, max. 250 A; Iq = 10 kA | |
| — usable for Standard Faults at 575/600 V at inside-delta circuit according to UL | Siemens type: 3VA52, max. 250 A; Iq = 10 kA | |
| ● of the fuse | Type: Class RK5 / K5, max. 350 A; Iq = 10 kA | |
| — usable for Standard Faults up to 575/600 V according to UL | Type: Class J / L, max. 350 A; Iq = 100 kA | |
| — usable for High Faults up to 575/600 V according to UL | Type: Class RK5 / K5, max. 350 A; Iq = 10 kA | |
| — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL | Type: Class J / L, max. 350 A; Iq = 100 kA | |
| — usable for High Faults at inside-delta circuit up to 575/600 V according to UL | | |
| operating power [hp] for 3-phase motors | | |
| ● at 200/208 V at 50 °C rated value | 40 hp | |
| ● at 220/230 V at 50 °C rated value | 40 hp | |
| ● at 460/480 V at 50 °C rated value | 100 hp | |
| ● at 575/600 V at 50 °C rated value | 125 hp | |
| ● at 200/208 V at inside-delta circuit at 50 °C rated value | 75 hp | |
| ● at 220/230 V at inside-delta circuit at 50 °C rated value | 75 hp | |
| ● at 460/480 V at inside-delta circuit at 50 °C rated value | 150 hp | |
| ● at 575/600 V at inside-delta circuit at 50 °C rated value | 200 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 |



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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=3RW5235-2TC05>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5235-2TC05>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5235-2TC05>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5235-2TC05&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

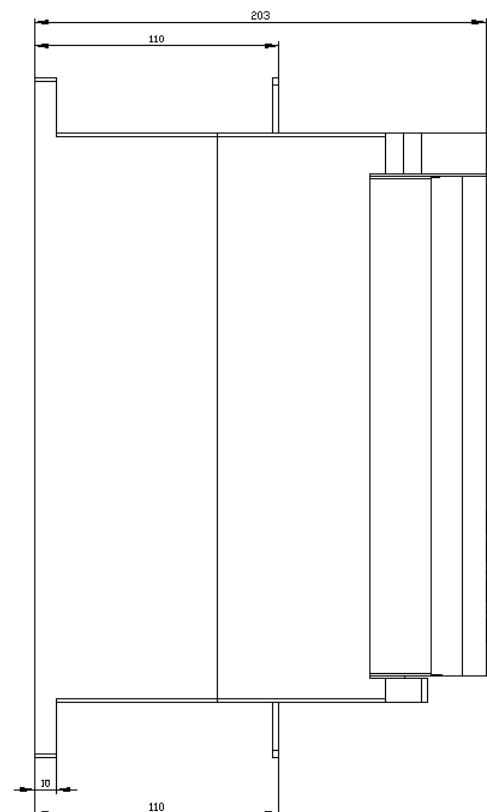
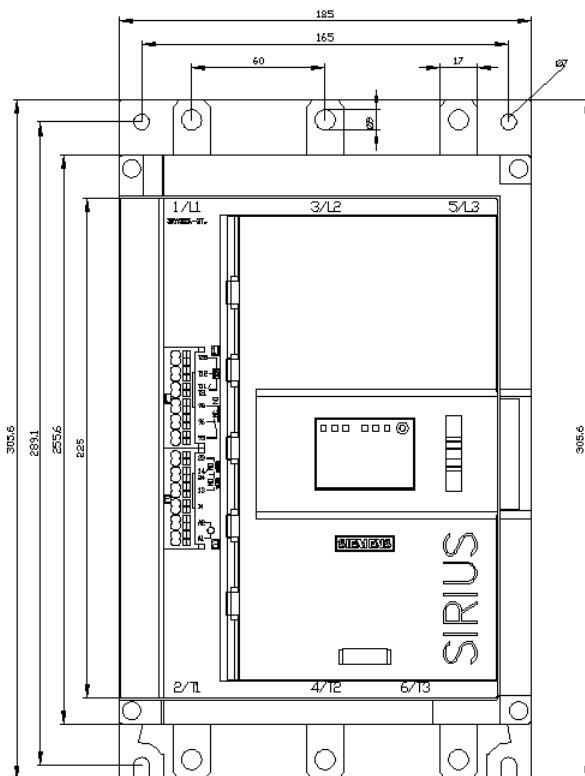
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5235-2TC05/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5235-2TC05&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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





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