



SIRIUS soft starter 200-480 V 370 A, 110-250 V AC Screw terminals
Thermistor input

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| product brand name | SIRIUS |
| product category | Hybrid switching devices |
| product designation | Soft starter |
| product type designation | 3RW50 |
| 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 500 V • of the gG fuse usable up to 690 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 • of line contactor usable up to 480 V • of line contactor usable up to 690 V | 3RW5980-0HS01 3RW5980-0HF00 3RW5980-0CS00 3RW5980-0CP00 3RW5980-0CT00 3RW5980-0CR00 3RW5980-0CE00 3VA2580-6HN32-0AA0: Type of assignment 1, Iq = 65 kA 3VA2580-6HN32-0AA0: Type of assignment 1, Iq = 65 kA 2x3NA3365-6; Type of coordination 1, Iq = 65 kA 3NE1 334-2: Type of coordination 2, Iq = 65 kA 3NE3 336: Type of coordination 2, Iq = 65 kA 3RT1075 3RT1075 |
| General technical data | |
| starting voltage [%] | 30 ... 100 % |
| stopping voltage [%] | 50 %; non-adjustable |
| start-up ramp time of soft starter | 0 ... 20 s |
| ramp-down time of soft starter | 0 ... 20 s |
| current limiting value [%] adjustable | 130 ... 700 % |
| accuracy class according to IEC 61557-12 | 5 % |
| certificate of suitability | |
| <ul style="list-style-type: none"> • CE marking • UL approval • CSA approval | Yes Yes Yes |
| product component | |
| <ul style="list-style-type: none"> • HMI-High Feature • is supported HMI-Standard • is supported HMI-High Feature | No Yes Yes |
| product feature integrated bypass contact system | Yes |
| number of controlled phases | 2 |
| trip class | CLASS 10A / 10E (preset) / 20E; acc. to IEC 60947-4-2 |

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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 | 1 600 V |
| service factor | 1 |
| surge voltage resistance rated value | 6 kV |
| maximum permissible voltage for safe isolation | |
| • 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) | 09/23/2019 |
| 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; Full motor protection (thermistor motor protection and electronic motor overload protection) |
| • evaluation of thermistor motor protection | Yes; Type A PTC or Klixon / Thermoclick |
| • 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 |
| • voltage ramp | Yes |
| • torque control | No |
| • analog output | No |
| Power Electronics | |
| operational current | |
| • at 40 °C rated value | 370 A |
| • at 50 °C rated value | 328 A |
| • at 60 °C rated value | 300 A |
| operating voltage | |
| • rated value | 200 ... 480 V |
| relative negative tolerance of the operating voltage | -15 % |
| relative positive tolerance of the operating voltage | 10 % |
| operating power for 3-phase motors | |
| • at 230 V at 40 °C rated value | 110 kW |
| • at 400 V at 40 °C rated value | 200 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 | 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 |

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| <ul style="list-style-type: none"> • 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 | 216 A 230 A 244 A 258 A 272 A 286 A 300 A 314 A 328 A 342 A 356 A 370 A 160 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 | 36 W 29 W 24 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 | 3 726 W 3 124 W 2 748 W |
| type of the motor protection | Electronic, tripping in the event of thermal overload of the motor |
| Control circuit/ Control | |
| type of voltage of the control supply voltage | AC |
| control supply voltage at AC | |
| <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 110 ... 250 V 110 ... 250 V |
| relative negative tolerance of the control supply voltage at AC at 50 Hz | -15 % |
| relative positive tolerance of the control supply voltage at AC at 50 Hz | 10 % |
| relative negative tolerance of the control supply voltage at AC at 60 Hz | -15 % |
| relative positive tolerance of the control supply voltage at AC at 60 Hz | 10 % |
| 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 current in standby mode rated value | 30 mA |
| holding current in bypass operation rated value | 105 mA |
| locked-rotor current at close of bypass contact maximum | 2.2 A |
| inrush current peak at application of control supply voltage maximum | 12.2 A |
| duration of inrush current peak at application of control supply voltage | 2.2 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 | 0 |
| 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 | with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back |
| fastening method | screw fixing |
| height | 230 mm |
| width | 160 mm |
| depth | 282 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 | 7.3 kg |

Connections/ Terminals

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| type of electrical connection | |
| <ul style="list-style-type: none"> • for main current circuit • for control circuit | busbar connection screw-type terminals |
| width of connection bar maximum | 35 mm; with connection cover 3RT1966-4EA1 maximum length 45 mm |
| wire length for thermistor connection | |
| <ul style="list-style-type: none"> • with conductor cross-section = 0.5 mm² maximum • with conductor cross-section = 1.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum | 50 m 150 m 250 m |
| type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • for main contacts for box terminal using the front clamping point solid | 95 ... 300 mm ² |
| <ul style="list-style-type: none"> • for main contacts for box terminal using the front clamping point finely stranded with core end processing | 70 ... 240 mm ² |
| <ul style="list-style-type: none"> • for main contacts for box terminal using the front clamping point finely stranded without core end processing | 70 ... 240 mm ² |
| <ul style="list-style-type: none"> • for main contacts for box terminal using the front clamping point stranded | 95 ... 300 mm ² |
| <ul style="list-style-type: none"> • at AWG cables for main contacts for box terminal using the front clamping point | 3/0 ... 600 kcmil |
| <ul style="list-style-type: none"> • for main contacts for box terminal using the back clamping point solid | 120 ... 240 mm ² |
| <ul style="list-style-type: none"> • at AWG cables for main contacts for box terminal using the back clamping point | 250 ... 500 kcmil |
| <ul style="list-style-type: none"> • for main contacts for box terminal using both clamping points solid | min. 2x 70 mm ² , max. 2x 240 mm ² |
| <ul style="list-style-type: none"> • for main contacts for box terminal using both clamping points finely stranded with core end processing | min. 2x 50 mm ² , max. 2x 185 mm ² |
| <ul style="list-style-type: none"> • for main contacts for box terminal using both clamping points finely stranded without core end processing | min. 2x 50 mm ² , max. 2x 185 mm ² |
| <ul style="list-style-type: none"> • for main contacts for box terminal using both clamping points stranded | min. 2x 70 mm ² , max. 2x 240 mm ² |
| <ul style="list-style-type: none"> • for main contacts for box terminal using the back clamping point finely stranded with core end processing | 120 ... 185 mm ² |
| <ul style="list-style-type: none"> • for main contacts for box terminal using the back clamping point finely stranded without core end processing | 120 ... 185 mm ² |
| <ul style="list-style-type: none"> • for main contacts for box terminal using the back clamping point stranded | 120 ... 240 mm ² |
| type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • at AWG cables for main current circuit solid | 2/0 ... 500 kcmil |
| <ul style="list-style-type: none"> • for DIN cable lug for main contacts stranded | 50 ... 240 mm ² |
| <ul style="list-style-type: none"> • for DIN cable lug for main contacts finely stranded | 70 ... 240 mm ² |
| type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • for control circuit solid | 1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²) |
| <ul style="list-style-type: none"> • for control circuit finely stranded with core end | 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²) |

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| processing | |
| <ul style="list-style-type: none"> at AWG cables for control circuit solid | 1x (20 ... 12), 2x (20 ... 14) |
| 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 | 1 000 m |
| tightening torque | |
| <ul style="list-style-type: none"> for main contacts with screw-type terminals | 14 ... 24 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 | 124 ... 210 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 Manual |
| 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) |
| 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 the fuse <ul style="list-style-type: none"> usable for Standard Faults up to 575/600 V according to UL | Type: Class L, max. 1200 A; Iq = 18 kA |
| <ul style="list-style-type: none"> of the fuse <ul style="list-style-type: none"> usable for High Faults up to 575/600 V according to UL | Type: Class L, max. 1200 A; Iq = 100 kA |
| operating power [hp] for 3-phase motors | |
| <ul style="list-style-type: none"> at 200/208 V at 50 °C rated value | 100 hp |
| <ul style="list-style-type: none"> at 220/230 V at 50 °C rated value | 125 hp |
| <ul style="list-style-type: none"> at 460/480 V at 50 °C rated value | 250 hp |
| Safety related data | |
| 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 |
| ATEX | |
| certificate of suitability | |
| <ul style="list-style-type: none"> ATEX | Yes |
| <ul style="list-style-type: none"> IECEx | Yes |
| hardware fault tolerance according to IEC 61508 relating to ATEX | 0 |
| PFDAvg with low demand rate according to IEC 61508 relating to ATEX | 0.09 |
| PFHD with high demand rate according to EN 62061 relating to ATEX | 9E-6 1/h |
| Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX | SIL1 |
| T1 value for proof test interval or service life according to IEC 61508 relating to ATEX | 3 y |

Certificates/ approvals

General Product Approval

For use in hazardous locations



[Confirmation](#)



For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping



IECEX



EG-Konf.

[Type Test Certificates/Test Report](#)



ABS



LRS



PRS

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=3RW5075-6TB14>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5075-6TB14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5075-6TB14>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5075-6TB14&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

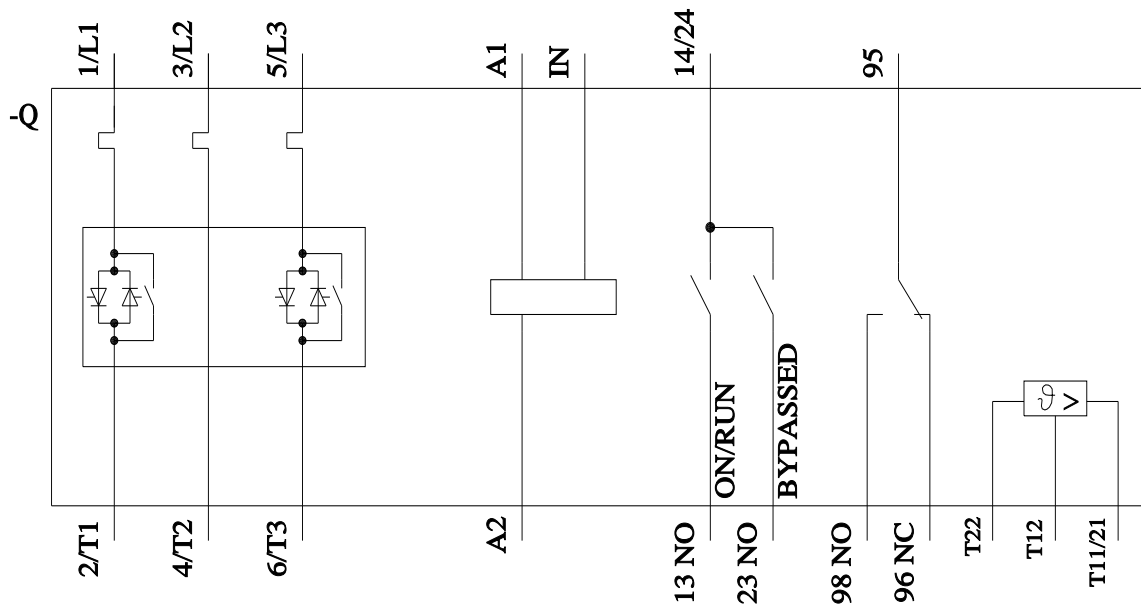
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5075-6TB14/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5075-6TB14&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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



last modified:

4/11/2022 

