SIEMENS

## Data sheet 3RW5213-3AC05

SIRIUS soft starter 200-600 V 13 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** | |
| ● 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 | 3RV2032-4TA10; Type of coordination 1, Iq = 65 kA, CLASS 10 |
| ● of circuit breaker usable at 500 V | 3RV2032-4TA10; Type of coordination 1, Iq = 18 kA, CLASS 10 |
| ● of circuit breaker usable at 400 V at inside-delta circuit | 3RV2032-4DA10; Type of coordination 1, Iq = 65 kA, CLASS 10 |
| ● of circuit breaker usable at 500 V at inside-delta circuit | 3RV2032-4DA10; Type of coordination 1, Iq = 18 kA, CLASS 10 |
| ● of the gG fuse usable up to 690 V | 3NA3820-6; Type of coordination 1, Iq = 65 kA |
| ● of the gG fuse usable at inside-delta circuit up to 500 V | 3NA3820-6; Type of coordination 1, Iq = 65 kA |
| ● of full range R fuse link for semiconductor protection usable up to 690 V | 3NE1815-0; Type of coordination 2, Iq = 65 kA |
| ● of back-up R fuse link for semiconductor protection usable up to 690 V | 3NE8017-1; 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 |
| **trip class** | CLASS 10A (default) / 10E / 20E; acc. to IEC 60947-4-2 |
| **buffering time in the event of power failure** | |
| ● for main current circuit | 100 ms |
| ● for control circuit | 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** | 1 600 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 |
| **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 |
| ● **PROFIenergy** | 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 | 13 A |
| ● at 50 °C rated value | 11.5 A |
| ● at 60 °C rated value | 10.5 A |
| **operational current at inside-delta circuit** | |
| ● at 40 °C rated value | 22.5 A |
| ● at 50 °C rated value | 19.9 A |
| ● at 60 °C rated value | 18.2 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 | 3 kW |
| ● at 230 V at inside-delta circuit at 40 °C rated value | 5.5 kW |
| ● at 400 V at 40 °C rated value | 5.5 kW |
| ● at 400 V at inside-delta circuit at 40 °C rated value | 11 kW |
| ● at 500 V at 40 °C rated value | 7.5 kW |
| ● at 500 V at inside-delta circuit at 40 °C rated value | 15 kW |

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| **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 | 5.5 A |
| ● at rotary coding switch on switch position 2 | 6 A |
| ● at rotary coding switch on switch position 3 | 6.5 A |
| ● at rotary coding switch on switch position 4 | 7 A |
| ● at rotary coding switch on switch position 5 | 7.5 A |
| ● at rotary coding switch on switch position 6 | 8 A |
| ● at rotary coding switch on switch position 7 | 8.5 A |
| ● at rotary coding switch on switch position 8 | 9 A |
| ● at rotary coding switch on switch position 9 | 9.5 A |
| ● at rotary coding switch on switch position 10 | 10 A |
| ● at rotary coding switch on switch position 11 | 10.5 A |
| ● at rotary coding switch on switch position 12 | 11 A |
| ● at rotary coding switch on switch position 13 | 11.5 A |
| ● at rotary coding switch on switch position 14 | 12 A |
| ● at rotary coding switch on switch position 15 | 12.5 A |
| ● at rotary coding switch on switch position 16 | 13 A |
| ● minimum | 5.5 A |
| **adjustable motor current** | |
| ● for inside-delta circuit at rotary coding switch on switch position 1 | 9.5 A |
| ● for inside-delta circuit at rotary coding switch on switch position 2 | 10.4 A |
| ● for inside-delta circuit at rotary coding switch on switch position 3 | 11.3 A |
| ● for inside-delta circuit at rotary coding switch on switch position 4 | 12.1 A |
| ● for inside-delta circuit at rotary coding switch on switch position 5 | 13 A |
| ● for inside-delta circuit at rotary coding switch on switch position 6 | 13.9 A |
| ● for inside-delta circuit at rotary coding switch on switch position 7 | 14.7 A |
| ● for inside-delta circuit at rotary coding switch on switch position 8 | 15.6 A |
| ● for inside-delta circuit at rotary coding switch on switch position 9 | 16.5 A |
| ● for inside-delta circuit at rotary coding switch on switch position 10 | 17.3 A |
| ● for inside-delta circuit at rotary coding switch on switch position 11 | 18.2 A |
| ● for inside-delta circuit at rotary coding switch on switch position 12 | 19.1 A |
| ● for inside-delta circuit at rotary coding switch on switch position 13 | 19.9 A |
| ● for inside-delta circuit at rotary coding switch on switch position 14 | 20.8 A |
| ● for inside-delta circuit at rotary coding switch on switch position 15 | 21.7 A |
| ● for inside-delta circuit at rotary coding switch on switch position 16 | 22.5 A |
| ● at inside-delta circuit minimum | 9.5 A |
| **minimum load [%]** | 15 %; Relative to smallest settable Ie |
| **power loss [W] for rated value of the current at AC** | |
| ● at 40 °C after startup | 16 W |
| ● at 50 °C after startup | 15 W |
| ● at 60 °C after startup | 15 W |
| **power loss [W] at AC at current limitation 350 %** | |
| ● at 40 °C during startup | 210 W |
| ● at 50 °C during startup | 178 W |
| ● at 60 °C during startup | 161 W |

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| **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** | 360 mA |
| **inrush current by closing the bypass contacts maximum** | 0.75 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** | |
| **number of digital inputs** | 1 |
| **number of digital outputs** | 3 |
| ● 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** | |
| ● 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** | +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface |
| **fastening method** | screw fixing |
| **height** | 275 mm |
| **width** | 170 mm |
| **depth** | 152 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** | 2.1 kg |
| **Connections/ Terminals** | |
| **type of electrical connection** | |
| ● for main current circuit | screw-type terminals |
| ● for control circuit | spring-loaded terminals |
| **type of connectable conductor cross-sections** | |
| ● for main contacts | |

| | |
|---|---|
| — solid | 2x (1.0 ... 2.5 mm²), 2x (2.5 ... 10 mm²) |
| — finely stranded with core end processing | 2x (1.0 ... 2.5 mm²), 2x (2.5 ... 6.0 mm²) |
| ● for AWG cables for main current circuit solid | 2x (16 ... 12), 2x (14 ... 8) |
| **type of connectable conductor cross-sections** | |
| ● for control circuit solid | 2x (0.25 ... 1.5 mm²) |
| ● for control circuit finely stranded with core end processing | 2x (0.25 ... 1.5 mm²) |
| ● for AWG cables for control circuit solid | 2x (24 ... 16) |
| ● for 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 | 2 ... 2.5 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 | 18 ... 22 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 according 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 according to IEC 60721 | 1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4 |
| ● 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** | |
| ● PROFINET standard | Yes |
| ● EtherNet/IP | Yes |
| ● Modbus RTU | Yes |
| ● Modbus TCP | Yes |
| ● PROFIBUS | Yes |
| **UL/CSA ratings** | |
| **manufacturer's article number** | |
| ● **of circuit breaker** | |
| — usable for Standard Faults at 460/480 V according to UL | Siemens type: 3RV2742, max. 40 A or 3VA51, max. 40 A; Iq = 5 kA |
| — usable for High Faults at 460/480 V according to UL | Siemens type: 3RV2742, max. 30 A or 3VA51, max. 35 A; Iq max = 65 kA |
| — usable for Standard Faults at 460/480 V at inside-delta circuit according to UL | Siemens type: 3RV2742, max. 40 A or 3VA51, max. 40 A; Iq = 5 kA |
| — usable for High Faults at 460/480 V at inside-delta circuit according to UL | Siemens type: 3RV2742, max. 30 A or 3VA51, max. 35 A; Iq max = 65 kA |
| — usable for Standard Faults at 575/600 V according to UL | Siemens type: 3RV2742, max. 40 A or 3VA51, max. 40 A; Iq = 5 kA |
| — usable for Standard Faults at 575/600 V at inside-delta circuit according to UL | Siemens type: 3RV2742, max. 40 A or 3VA51, max. 40 A; Iq = 5 kA |
| ● **of the fuse** | |
| — usable for Standard Faults up to 575/600 V according to UL | Type: Class RK5 / K5, max. 50 A; Iq = 5 kA |
| — usable for High Faults up to 575/600 V according to UL | Type: Class J / L, max. 50 A; Iq = 100 kA |
| — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL | Type: Class RK5 / K5, max. 50 A; Iq = 5 kA |
| — usable for High Faults at inside-delta circuit up to 575/600 V according to UL | Type: Class J / L, max. 50 A; Iq = 100 kA |
| **operating power [hp] for 3-phase motors** | |
| ● at 200/208 V at 50 °C rated value | 2 hp |

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|---|---|
| ● at 220/230 V at 50 °C rated value | 3 hp |
| ● at 460/480 V at 50 °C rated value | 7.5 hp |
| ● at 575/600 V at 50 °C rated value | 10 hp |
| ● at 200/208 V at inside-delta circuit at 50 °C rated value | 5 hp |
| ● at 220/230 V at inside-delta circuit at 50 °C rated value | 5 hp |
| ● at 460/480 V at inside-delta circuit at 50 °C rated value | 10 hp |
| ● at 575/600 V at inside-delta circuit at 50 °C rated value | 15 hp |
| **contact rating of auxiliary contacts according to UL** | R300-B300 |

## Safety related data

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|---|---|
| **protection class IP on the front according to IEC 60529** | IP20 |
| **touch protection on the front according to IEC 60529** | finger-safe, for vertical contact from the front |
| **electromagnetic compatibility** | in accordance with IEC 60947-4-2 |

## Certificates/ approvals

**General Product Approval** | **EMC**

Confirmation

**Declaration of Conformity** | **Test Certificates** | **Marine / Shipping**

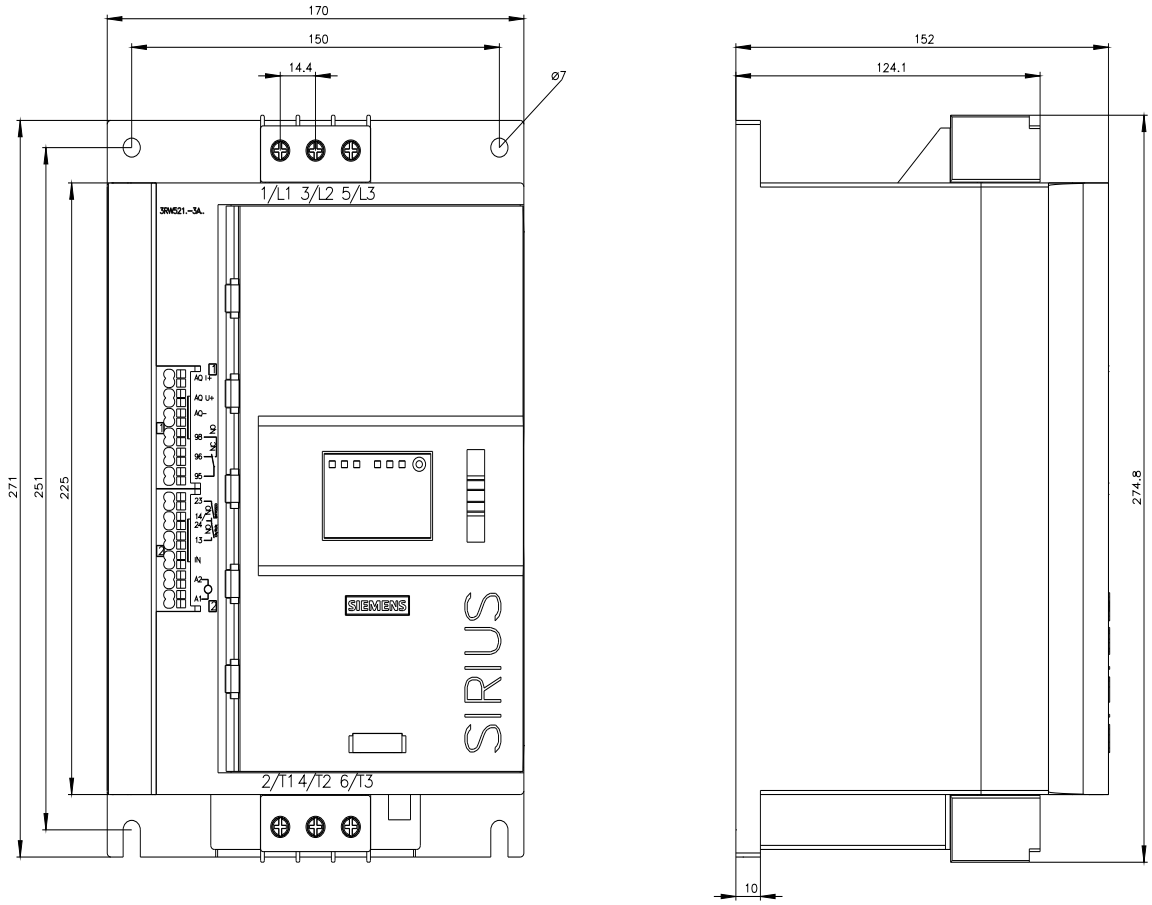
Type Test Certific-ates/Test Report

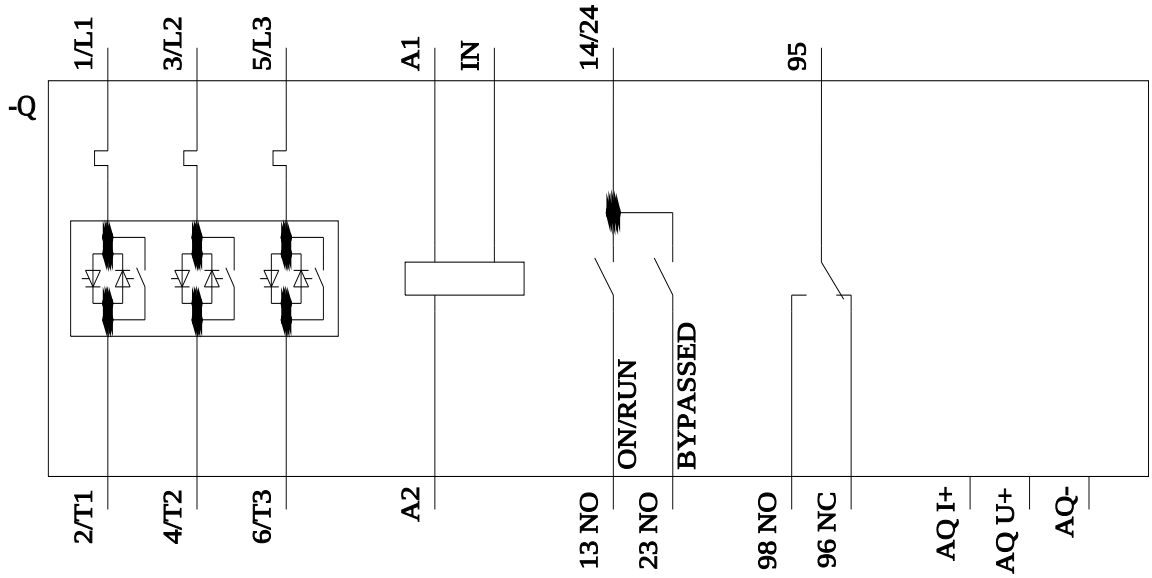
**Marine / Shipping** | **other**

Confirmation

## Further information

**Siemens has decided to exit the Russian market (see here).**
https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business
**Siemens is working on the renewal of the current EAC certificates.**
Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).
**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=3RW5213-3AC05
**Cax online generator**
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5213-3AC05
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
https://support.industry.siemens.com/cs/ww/en/ps/3RW5213-3AC05
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5213-3AC05&lang=en
**Characteristic: Tripping characteristics, I²t, Let-through current**
https://support.industry.siemens.com/cs/ww/en/ps/3RW5213-3AC05/char
**Characteristic: Installation altitude**
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5213-3AC05&objecttype=14&gridview=view1
**Simulation Tool for Soft Starters (STS)**
https://support.industry.siemens.com/cs/ww/en/view/101494917



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