

SIRIUS soft starter 200-480 V 143 A, 24 V AC/DC Screw terminals
Thermistor input



Figure similar

| | |
|-------------------------------|---|
| Product brand name | SIRIUS |
| Product category | Hybrid switching devices |
| Product designation | Soft starter |
| Manufacturer's article number | <div><ul style="list-style-type: none">• of HMI module usable 3RW5980-0HS00• of HMI-Modul high-feature 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 circuit breaker usable at 400 V 3VA2220-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10• of circuit breaker usable at 400 V at inside-delta circuit 3VA2325-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10• of the gG fuse usable up to 690 V 3NA3244-6; Type of coordination 1, Iq = 65 kA• of the gG fuse usable at inside-delta circuit up to 500 V 3NA3244-6; Type of coordination 1, Iq = 65 kA• of full range R fuse link for semiconductor protection usable up to 690 V 3NE1227-0; Type of coordination 2, Iq = 65 kA</div> |

- of back-up R fuse link for semiconductor protection usable up to 690 V

[3NE3334-0B; Type of coordination 2, I_q = 65 kA](#)

General technical data

| | |
|---|---|
| Starting voltage [%] | 30 ... 100 % |
| Start-up ramp time of soft starter | 0 ... 20 s |
| Product component | |
| • 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 |
| Insulation voltage | |
| • rated value | 600 V |
| Degree of pollution | 3 |
| Impulse voltage rated value | 6 kV |
| Blocking voltage of the thyristor maximum | 1 400 V |
| Service factor | 1 |
| Surge voltage resistance rated value | 6 kV |
| maximum permissible voltage for safe isolation | |
| • between main and auxiliary circuit | 600 V |
| Protection class IP | IP00; IP20 with additional terminal covers for vertical touching from the front |
| Usage category acc. to IEC 60947-4-2 | AC 53a |
| 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 |
| Reference code acc. to DIN EN 81346-2 | Q |
| 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 |
| • inside-delta circuit | Yes |
| • Auto-reset | Yes |
| • Manual RESET | Yes |
| • remote reset | Yes; By turning off the control supply voltage |
| • communication function | Yes |
| • via software configurable | Yes |

- firmware update
- removable terminal for control circuit
- analog output

Yes
Yes
No

Power Electronics

| | |
|---|--|
| Operating current | |
| • at 40 °C rated value | 143 A |
| • at 50 °C rated value | 128 A |
| • at 60 °C rated value | 118 A |
| Operating current at inside-delta circuit | |
| • at 40 °C rated value | 248 A |
| • at 50 °C rated value | 222 A |
| • at 60 °C rated value | 204 A |
| Operating voltage | |
| • rated value | 200 ... 480 V |
| • at inside-delta circuit rated value | 200 ... 480 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 three-phase motors | |
| • at 230 V at 40 °C rated value | 37 kW |
| • at 230 V at inside-delta circuit at 40 °C rated value | 75 kW |
| • at 400 V at 40 °C rated value | 75 kW |
| • at 400 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 | |
| • minimum | 68 A |
| • at inside-delta circuit minimum | 118 A |
| Minimum load [%] | 15 %; Relative to smallest settable I _e |
| Power loss [W] for rated value of the current at AC | |
| • at 40 °C to power-up | 55 W |
| • at 50 °C to power-up | 50 W |
| • at 60 °C to power-up | 47 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 the by-pass mode operating rated value | 380 mA |
| Starting current at close of by-pass contact maximum | 7.6 A |
| Inrush current peak at connect of control supply voltage maximum | 3.3 A |
| Duration of inrush current peak at connect 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 |
| • not parameterizable | 2 |
| Digital output version | 2 normally-open contacts (NO) / 1 changeover contact (CO) |
| Number of inputs for thermistor connection | 1; Type A PTC or Klaxon / Thermoclick |
| 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 |
| Mounting type | screw fixing |
| Height | 306 mm |
| Width | 185 mm |
| 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 |
| Installation altitude at height above sea level maximum | 5 000 m; Derating as of 1000 m, see catalog |
| Weight without packaging | 6.6 kg |

| Connections/Terminals | |
|---|--------------------------------|
| Type of electrical connection | |
| • for main current circuit | screw-type terminals |
| • for control circuit | screw-type terminals |
| Type of connectable conductor cross-sections | |
| • for DIN cable lug for main contacts stranded | 2x (16 ... 95 mm²) |
| • for DIN cable lug for main contacts finely stranded | 2x (25 ... 120 mm²) |
| Type of connectable conductor cross-sections at AWG conductors for control circuit | |
| • solid | 1x (20 ... 12), 2x (20 ... 14) |
| 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 |

| Ambient conditions | |
|---|---|
| Ambient temperature | |
| • during operation | -25 ... +60 °C |
| • 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 60947-1 | CISPR11, ambience A (industrial sector) |

Communication/ Protocol

Communication module is supported

- PROFINET standard
- Modbus TCP
- PROFIBUS

Yes
Yes
Yes

UL/CSA ratings

Manufacturer's article number

- of the fuse usable up to 575/600 V according to UL
- of the fuse usable at inside-delta circuit up to 575/600 V according to UL

Type: Class RK5 / K5, max. 350 A; Standard fault, I_q = 10 kA

Type: Class RK5 / K5, max. 350 A

Operating power [hp] for three-phase motors

- 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 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

40 hp
40 hp
100 hp
75 hp
75 hp
150 hp

Contact rating of auxiliary contacts according to UL

R300-B300

General Product Approval

Declaration of Conformity

other



[Confirmation](#)

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RW5235-6TC04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5235-6TC04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5235-6TC04>

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

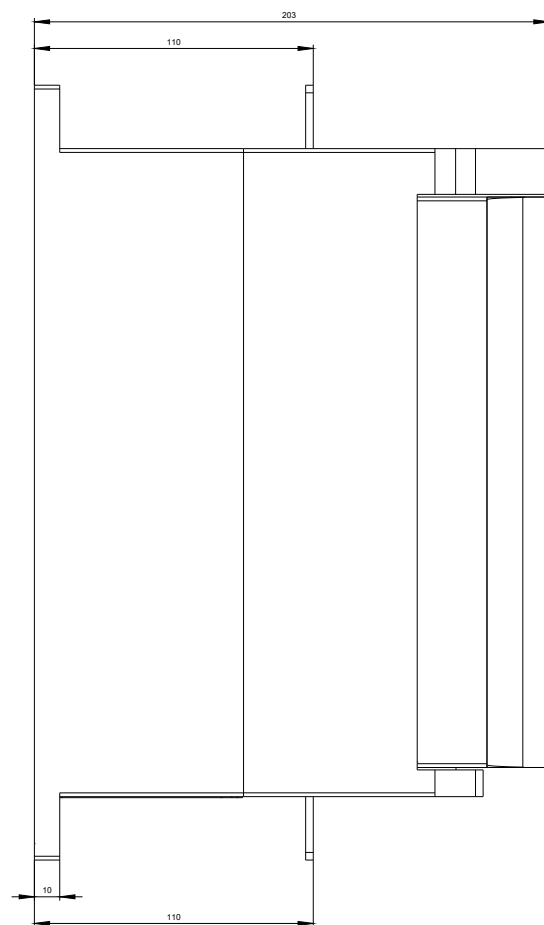
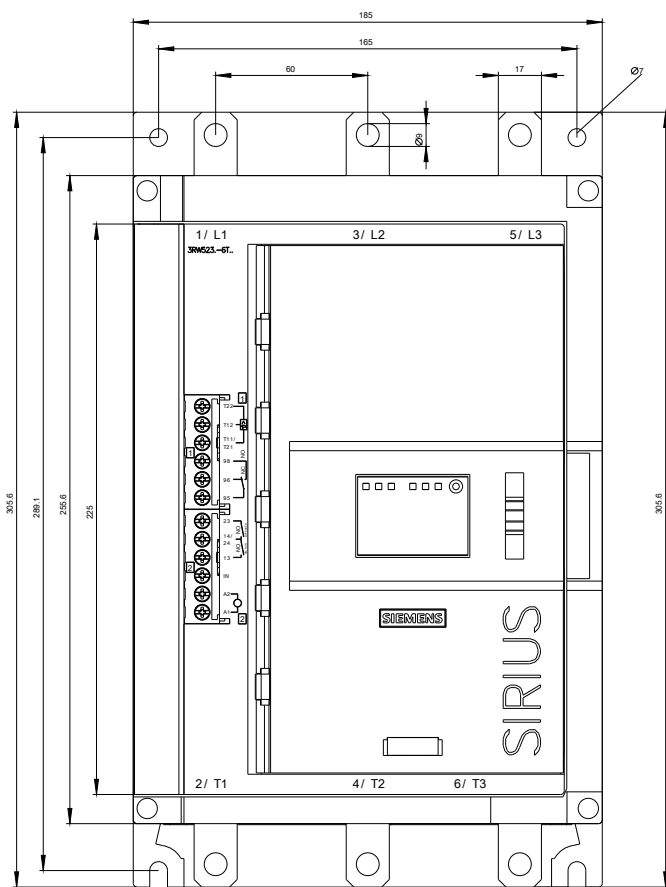
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5235-6TC04&lang=en

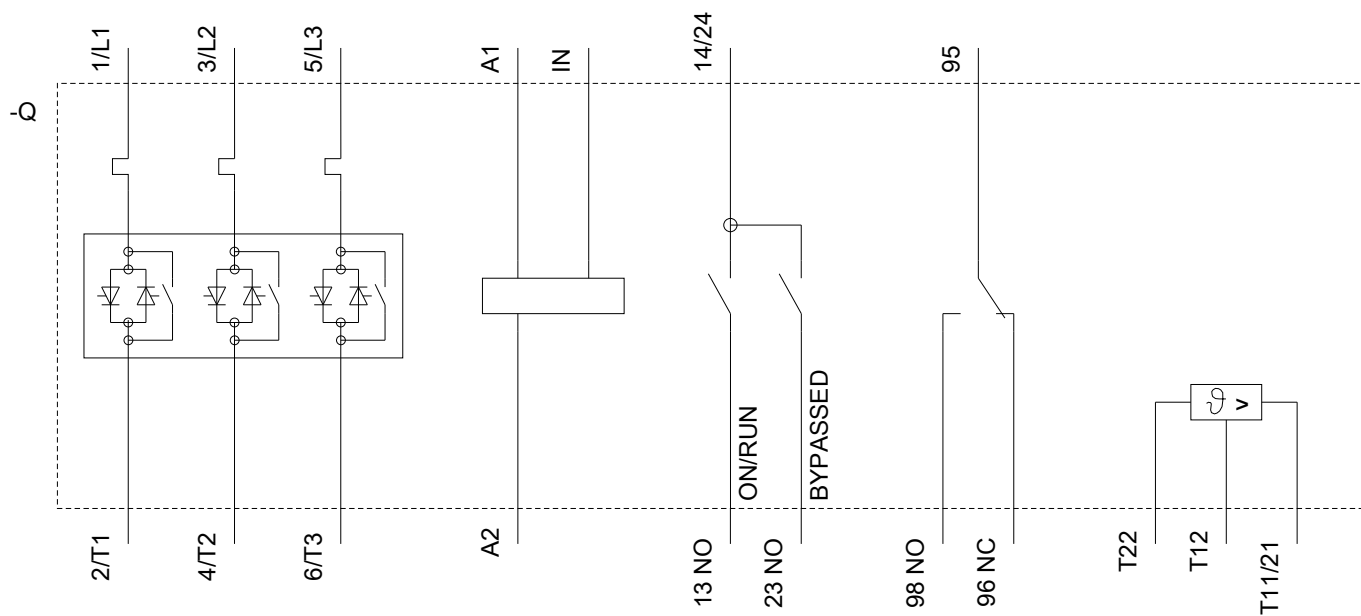
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5235-6TC04/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5235-6TC04&objecttype=14&gridview=view1>





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