

SIRIUS soft starter 200-480 V 47 A, 110-250 V AC Screw terminals
Thermistor input



Figure similar

Product brand name	SIRIUS
Product category	Hybrid switching devices
Product designation	Soft starter
Manufacturer's article number	<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 3RV2032-4JA10; Type of coordination 1, Iq = 65 kA, CLASS 10 • of circuit breaker usable at 500 V 3RV2032-4JA10; Type of coordination 1, Iq = 10 kA, CLASS 10 • of circuit breaker usable at 400 V at inside-delta circuit 3RV2032-4RA10; Type of coordination 1, Iq = 65 kA, CLASS 10 • of circuit breaker usable at 500 V at inside-delta circuit 3RV2032-4RA10; Type of coordination 1, Iq = 10 kA, CLASS 10 • of the gG fuse usable up to 690 V 3NA3824-6; Type of coordination 1, Iq = 65 kA

- 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

[3NA3824-6; Type of coordination 1, Iq = 65 kA](#)

[3NE1021-2; Type of coordination 2, Iq = 65 kA](#)

[3NE8024-1; Type of coordination 2, Iq = 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	Yes
• removable terminal for control circuit	Yes
• analog output	No

Power Electronics

Operating current	
• at 40 °C rated value	47 A
• at 50 °C rated value	41.6 A
• at 60 °C rated value	36.2 A
Operating current at inside-delta circuit	
• at 40 °C rated value	81.4 A
• at 50 °C rated value	72 A
• at 60 °C rated value	62.7 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	11 kW
• at 230 V at inside-delta circuit at 40 °C rated value	22 kW
• at 400 V at 40 °C rated value	22 kW
• at 400 V at inside-delta circuit at 40 °C rated value	45 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	20 A
• at inside-delta circuit minimum	34.6 A
Minimum load [%]	15 %; Relative to smallest settable Ie
Power loss [W] for rated value of the current at AC	
• at 40 °C to power-up	26 W

- at 50 °C to power-up
- at 60 °C to power-up

24 W

23 W

Control circuit/ Control

Type of voltage of the control supply voltage	AC
Control supply voltage at AC	
• at 50 Hz	110 ... 250 V
• at 60 Hz	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 the by-pass mode operating rated value	75 mA
Starting current at close of by-pass contact maximum	2.5 A
Inrush current peak at connect of control supply voltage maximum	12.2 A
Duration of inrush current peak at connect 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
• 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 Klixon / 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	+/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface
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	5.2 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 main contacts for box terminal using the front clamping point solid	1x (2.5 ... 16 mm ²)
• for main contacts for box terminal using the front clamping point finely stranded with core end processing	1x (2.5 ... 50 mm ²)
• for main contacts for box terminal using the front clamping point stranded	1x (10 ... 70 mm ²)
• at AWG conductors for main contacts for box terminal using the front clamping point	1x (10 ... 2/0)
• for main contacts for box terminal using the back clamping point solid	1x (2.5 ... 16 mm ²)
• at AWG conductors for main contacts for box terminal using the back clamping point	1x (10 ... 2/0)
• for main contacts for box terminal using both clamping points solid	2x (2.5 ... 16 mm ²)
• for main contacts for box terminal using both clamping points finely stranded with core end processing	2x (2.5 ... 35 mm ²)
• for main contacts for box terminal using both clamping points stranded	2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²)
• for main contacts for box terminal using the back clamping point finely stranded with core end processing	1x (2.5 ... 50 mm ²)

<ul style="list-style-type: none"> • for main contacts for box terminal using the back clamping point stranded 	1x (10 ... 70 mm ²)
Type of connectable conductor cross-sections at AWG conductors for control circuit <ul style="list-style-type: none"> • solid 	1x (20 ... 12), 2x (20 ... 14)
Wire length <ul style="list-style-type: none"> • between soft starter and motor maximum • at the digital inputs at AC maximum 	800 m 100 m

Ambient conditions

Ambient temperature <ul style="list-style-type: none"> • during operation • during storage and transport 	-25 ... +60 °C -40 ... +80 °C
Environmental category <ul style="list-style-type: none"> • during operation acc. to IEC 60721 • during storage acc. to IEC 60721 • during transport acc. to IEC 60721 	3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6 1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4 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 <ul style="list-style-type: none"> • PROFINET standard • Modbus TCP • PROFIBUS 	Yes Yes Yes
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UL/CSA ratings

Manufacturer's article number <ul style="list-style-type: none"> • of the fuse usable up to 575/600 V according to UL 	Standard fault, I _q = 5 kA
Operating power [hp] for three-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 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 	10 hp 10 hp 30 hp 20 hp 25 hp 50 hp
Contact rating of auxiliary contacts according to UL	R300-B300

General Product Approval	Declaration of Conformity	other
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[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=3RW5224-1TC14>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5224-1TC14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5224-1TC14>

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

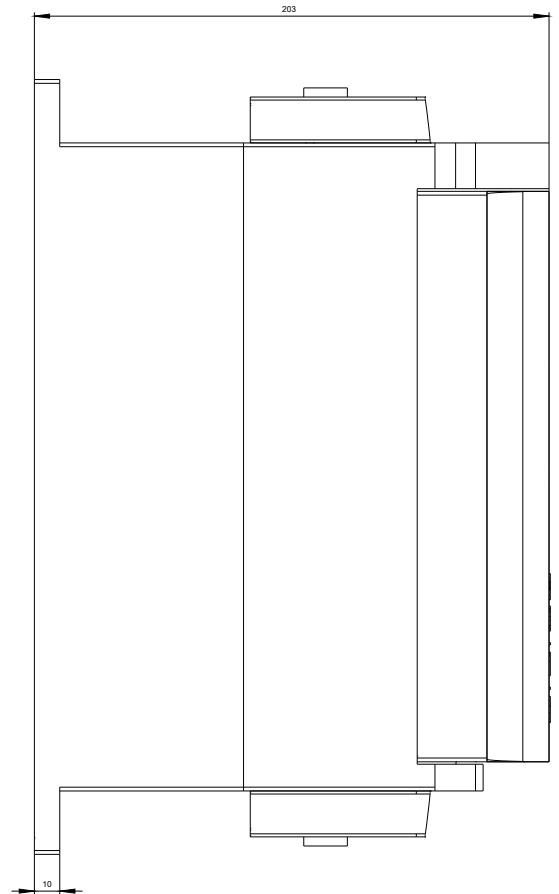
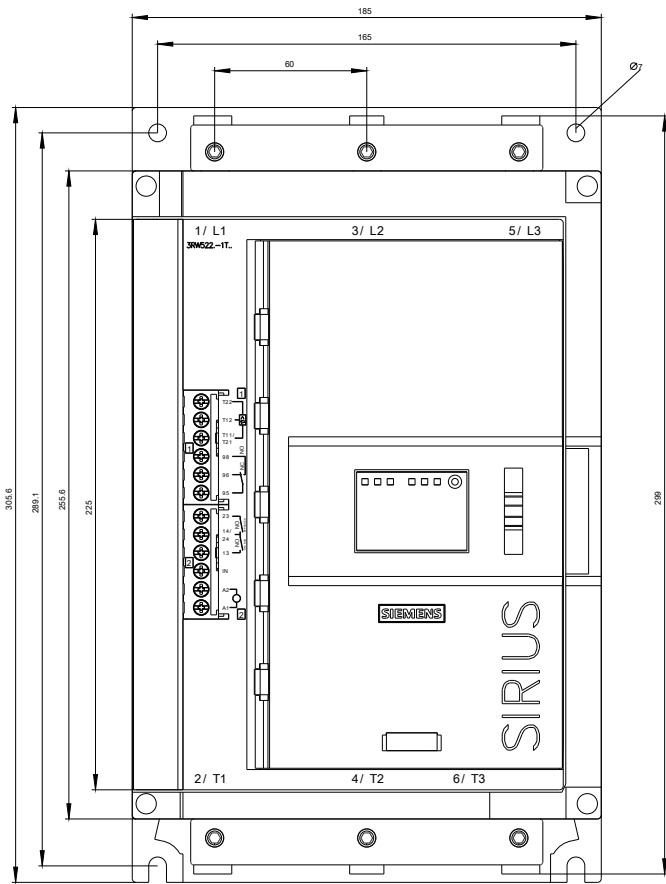
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5224-1TC14&lang=en

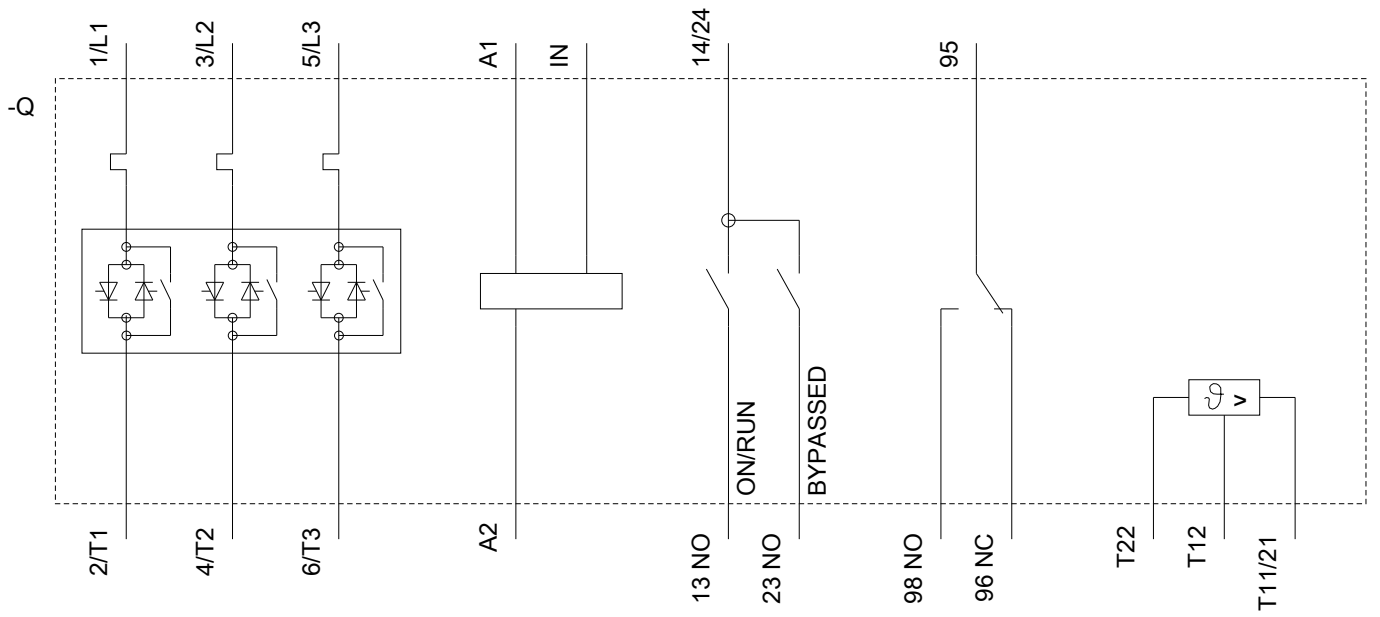
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5224-1TC14/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5224-1TC14&objecttype=14&gridview=view1>





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