SIEMENS

Data sheet

3RW5216-3TC14

SIRIUS soft starter 200-480 V 32 A, 110-250 V AC spring-type terminals Thermistor input



Figure similar

Product brand name	SIRIUS
Product category	Hybrid switching devices
Product designation	Soft starter
Manufacturer's article number	
• 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 	3RV2032-4VA10; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V 	3RV2032-4VA10; Type of coordination 1, Iq = 10 kA, CLASS 10
 of circuit breaker usable at 400 V at inside-delta circuit 	3RV2032-4JA10; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V at inside-delta circuit 	3RV2032-4JA10; 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 	3NA3824-6; Type of c
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

 $\underline{3NA3824-6; Type of coordination 1, Iq = 65 kA}$

3NE1818-0; Type of coordination 2, Iq = 65 kA

3NE8022-1; 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	1 600 V
Service factor	1
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
 between main and auxiliary circuit 	600 V
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	32 A
● at 50 °C rated value	28.4 A
• at 60 °C rated value	26 A
Operating current at inside-delta circuit	
• at 40 °C rated value	55.4 A
• at 50 °C rated value	49 A
• at 60 °C rated value	45 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	7.5 kW
 at 230 V at inside-delta circuit at 40 °C rated value 	15 kW
• at 400 V at 40 °C rated value	15 kW
• at 400 V at inside-delta circuit at 40 °C rated	22 kW
value	
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	14 A
• at inside-delta circuit minimum	24.2 A
Minimum load [%]	15 %; Relative to smallest settable le
Power loss [W] for rated value of the current at AC	
• at 40 °C to power-up	22 W

● at 50 °C to power-up	21 W
• at 60 °C to power-up	20 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	-15 %
voltage at AC at 50 Hz	
Relative positive tolerance of the control supply	10 %
voltage at AC at 50 Hz	
Relative negative tolerance of the control supply	-15 %
voltage at AC at 60 Hz	
Relative positive tolerance of the control supply voltage at AC at 60 Hz	10 %
•	50 0011-
Control supply voltage frequency	50 60 Hz
Relative negative tolerance of the control supply voltage frequency	-10 %
Relative positive tolerance of the control supply	10 %
voltage frequency	
Control supply current in standby mode rated value	30 mA
Holding current in the by-pass mode operating rated	75 mA
value	
Starting current at close of by-pass contact maximum	0.17 A
Inrush current peak at connect of control supply	12.2 A
voltage maximum	
Duration of inrush current peak at connect of control	2.2 ms
supply voltage	
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 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

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	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	
Installation altitude at height above sea level maximum	5 000 m; Derating as of 1000 m, see catalog	
Weight without packaging	2.3 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)	
Type of connectable conductor cross-sections at AWG conductors for control circuit		
• solid	2x (24 16)	
 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	
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		

Manufacturer's article number • of the fuse usable up to 575/600 V according to UL Type: Class RK5 / K5, max. 125 A; Standard fault, lq = 5 k • of the fuse usable at inside-delta circuit up to 575/600 V according to UL Type: Class RK5 / K5, max. 125 A Operating power [hp] for three-phase motors • at 200/208 V at 50 °C rated value 7.5 hp • at 220/230 V at 50 °C rated value 10 hp • at 460/480 V at 50 °C rated value 10 hp • at 220/208 V at inside-delta circuit at 50 °C 15 hp • at 4200/208 V at inside-delta circuit at 50 °C 15 hp • at 460/480 V at inside-delta circuit at 50 °C rated value • at 460/480 V at inside-delta circuit at 50 °C 15 hp • at 460/480 V at inside-delta circuit at 50 °C rated value • at 460/480 V at inside-delta circuit at 50 °C 15 hp • at 460/480 V at inside-delta circuit at 50 °C 70 hp • at 460/480 V at inside-delta circuit at 50 °C 15 hp • at 460/480 V at inside-delta circuit at 50 °C rated value • at 460/480 V at inside-delta circuit at 50 °C 15 hp • at 460/480 V at inside-delta circuit at 50 °C rated value • at 460/480 V at inside-delta circuit at 50 °C 16 hp				Communication module is supported
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 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 at 460/480 V at inside-delta circuit at 50 °C 30 hp Contact rating of auxiliary contacts according to UL R300-B300 			10 hp	• at 220/230 V at 50 °C rated value
rated value • at 220/230 V at inside-delta circuit at 50 °C 15 hp • at 460/480 V at inside-delta circuit at 50 °C 30 hp • at 460/480 V at inside-delta circuit at 50 °C 30 hp Contact rating of auxiliary contacts according to UL R300-B300			20 hp	• at 460/480 V at 50 °C rated value
rated value • at 460/480 V at inside-delta circuit at 50 °C 30 hp rated value R300-B300			15 hp	
rated value Contact rating of auxiliary contacts according to UL R300-B300			15 hp	
			30 hp	
			R300-B300	Contact rating of auxiliary contacts according to UL
General Product Approval Declaration of other Conformity		other	Declaration of Conformity	General Product Approval
		Confirmation		

Further information

CSA

Information- and Downloadcenter (Catalogs, Brochures,...) http://www.siemens.com/industrial-controls/catalogs

UL

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RW5216-3TC14

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5216-3TC14

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Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RW5216-3TC14

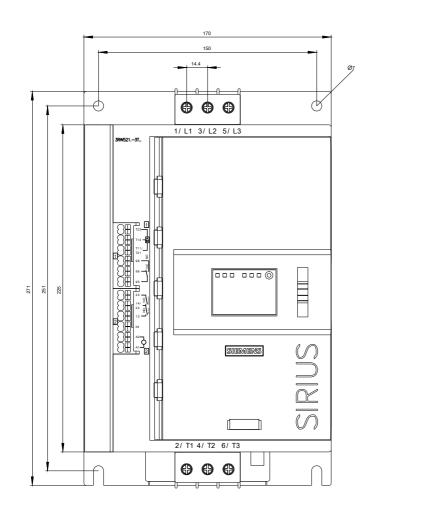
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5216-3TC14&lang=en

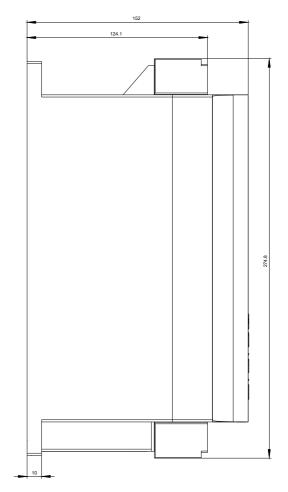
Characteristic: Tripping characteristics, I²t, Let-through current

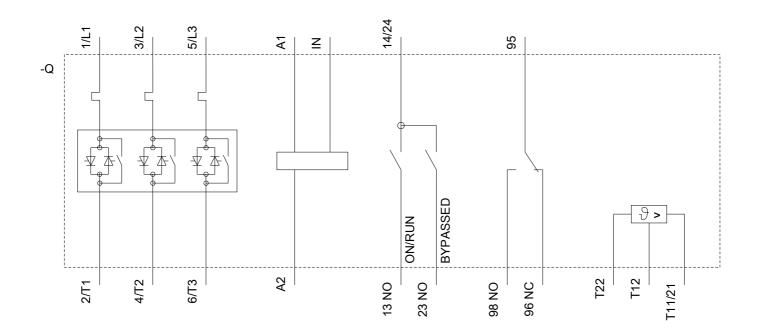
https://support.industry.siemens.com/cs/ww/en/ps/3RW5216-3TC14/char

Characteristic: Installation altitude

EG-Konf.







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