

SIRIUS soft starter 200-480 V 250 A, 24 V AC/DC Screw terminals
Analog output



Figure similar

Product brand name	SIRIUS
Product category	Hybrid switching devices
Product designation	Soft starter
Product type designation	3RW50
Manufacturer's article number	• of HMI module usable3RW5980-0HS01 • of HMI-Modul high-feature usable3RW5980-0HF00 • of communication module PROFINET standard usable3RW5980-0CS00 • of communication module PROFIBUS usable3RW5980-0CP00 • of communication module Modbus TCP usable3RW5980-0CT00 • of communication module Modbus RTU usable3RW5980-0CR00 • of communication module Ethernet/IP3RW5980-0CE00 • of circuit breaker usable at 400 V3VA2440-7MN32-0AA0; Type of assignment 1, Iq = 65 kA • of circuit breaker usable at 500 V3VA2440-7MN32-0AA0; Type of assignment 1, Iq = 65 kA • of the gG fuse usable up to 690 V2x3NA3354-6; Type of coordination 1, Iq = 65 kA • of full range R fuse link for semiconductor protection usable up to 690 V3NE1 331-0; Type of coordination 2, Iq = 65 kA

- 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

[3NE3 335; Type of coordination 2, I_q = 65 kA](#)

3RT1065

3RT1065

General technical data

Starting voltage [%]	30 ... 100 %
Stopping voltage [%]	50 ... 50 %
Start-up ramp time of soft starter	0 ... 20 s
Stopping time of soft starter	0 ... 20 s
Current limiting value [%] adjustable	130 ... 700 %
Accuracy class acc. to IEC 61557-12	5 %
Certificate of suitability	
• CE marking	Yes
• UL approval	Yes
• CSA-approval	Yes
Product component	
• is supported HMI-Standard	Yes
• is supported HMI-High Feature	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
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
Protection class IP	IP00; IP20 with additional terminal covers for vertical touching from the front
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; Electronic motor overload protection
• Evaluation of thermistor motor protection	No

• 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
• PROFINET	Yes; in connection with the PROFINET Standard communication module
• voltage ramp	Yes
• torque control	No
• analog output	Yes; 4 ... 20 mA (default) / 0 ... 10 V (parameterizable with High Feature HMI)

Power Electronics

Operating current	
• at 40 °C rated value	250 A
• at 50 °C rated value	220 A
• at 60 °C rated value	200 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 three-phase motors	
• at 230 V at 40 °C rated value	75 kW
• at 400 V 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	
• at rotary encoding switch on switch position 1	100 A
• at rotary encoding switch on switch position 2	110 A
• at rotary encoding switch on switch position 3	120 A
• at rotary encoding switch on switch position 4	130 A
• at rotary encoding switch on switch position 5	140 A
• at rotary encoding switch on switch position 6	150 A
• at rotary encoding switch on switch position 7	160 A
• at rotary encoding switch on switch position 8	170 A
• at rotary encoding switch on switch position 9	180 A
• at rotary encoding switch on switch position 10	190 A

• at rotary encoding switch on switch position 11 • at rotary encoding switch on switch position 12 • at rotary encoding switch on switch position 13 • at rotary encoding switch on switch position 14 • at rotary encoding switch on switch position 15 • at rotary encoding switch on switch position 16 • minimum	200 A 210 A 220 A 230 A 240 A 250 A 100 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 • at 50 °C to power-up • at 60 °C to power-up	23 W 18 W 15 W
Power loss [W] at AC at AC • at 40 °C during startup • at 50 °C during startup • at 60 °C during startup	2 454 W 2 043 W 1 786 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/DC
Control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value	24 V 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	490 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 (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 inputs for thermistor connection	0
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

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	230 mm
Width	160 mm
Depth	282 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 manual
Weight without packaging	7.3 kg

Connections/ Terminals	
Type of electrical connection	
• for main current circuit	busbar connection
• for control circuit	screw-type terminals
Width of connection bar maximum	45 mm
Type of connectable conductor cross-sections	
• for main contacts for box terminal using the front clamping point solid	95 ... 300 mm²

• for main contacts for box terminal using the front clamping point finely stranded with core end processing	70 ... 240 mm ²
• for main contacts for box terminal using the front clamping point finely stranded without core end processing	70 ... 240 mm ²
• for main contacts for box terminal using the front clamping point stranded	95 ... 300 mm ²
• at AWG conductors for main contacts for box terminal using the front clamping point	3/0 ... 600 kcmil
• for main contacts for box terminal using the back clamping point solid	120 ... 240 mm ²
• at AWG conductors for main contacts for box terminal using the back clamping point	250 ... 500 kcmil
• for main contacts for box terminal using both clamping points solid	min. 2x 70 mm ² , max. 2x 240 mm ²
• 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
• 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
• for main contacts for box terminal using both clamping points stranded	min. 2x 70 mm ² , max. 2x 240 mm ²
• for main contacts for box terminal using the back clamping point finely stranded with core end processing	120 ... 185 mm ²
• for main contacts for box terminal using the back clamping point finely stranded without core end processing	120 ... 185 mm ²
• for main contacts for box terminal using the back clamping point stranded	120 ... 240 mm ²
Type of connectable conductor cross-sections	
• at AWG conductors for main current circuit solid	2/0 ... 500 kcmil
• for DIN cable lug for main contacts stranded	50 ... 240 mm ²
• for DIN cable lug for main contacts finely stranded	70 ... 240 mm ²
Type of connectable conductor cross-sections	
• for control circuit solid	1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²)
• for control circuit finely stranded with core end processing	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²)
• 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	1 000 m
Tightening torque • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals	14 ... 24 N·m 0.8 ... 1.2 N·m
Tightening torque [lbf·in] • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals	124 ... 210 lbf·in 7 ... 10.3 lbf·in

Ambient conditions

Ambient temperature • during operation • during storage and transport	-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above -40 ... +80 °C
Environmental category • 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 60947-4-2: Class A

Communication/ Protocol

Communication module is supported • PROFINET standard • EtherNet/IP • Modbus RTU • Modbus TCP • PROFIBUS	Yes Yes Yes Yes Yes
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UL/CSA ratings

Manufacturer's article number • of circuit breaker — usable for High Faults at 460/480 V according to UL • of the fuse — usable for Standard Faults up to 575/600 V according to UL — usable for High Faults up to 575/600 V according to UL	Siemens type: 3VA54, max. 600 A; Iq max = 65 kA Type: Class L, max. 800 A; Iq = 18 kA Type: Class L, max. 800 A; Iq = 100 kA
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	60 hp 75 hp 150 hp

ATEX

Certificate of suitability	
• ATEX	Yes
• IECEx	Yes
Hardware fault tolerance acc. to IEC 61508 relating to ATEX	0
PFDAvg with low demand rate acc. to IEC 61508 relating to ATEX	0.09
PFHD with high demand rate acc. to EN 62061 relating to ATEX	0.000009 1/h
Safety Integrity Level (SIL) acc. to IEC 61508 relating to ATEX	SIL 1
T1 value for proof test interval or service life acc. to IEC 61508 relating to ATEX	3 y

Certificates/ approvals

General Product Approval			For use in hazardous locations		
					
CCC	CSA	UL		IECEx	ATEX

Declaration of Conformity	Test Certificates	other
 EG-Konf.	Miscellaneous Type Test Certificates/Test Report	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=3RW5073-6AB04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5073-6AB04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5073-6AB04>

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

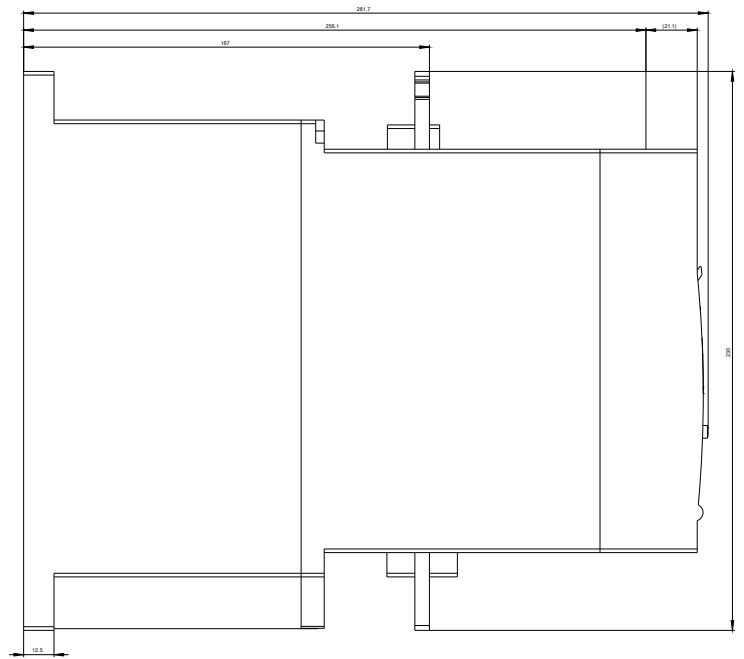
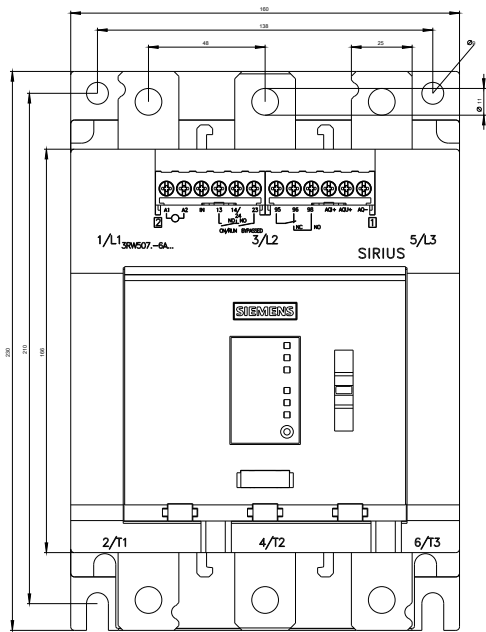
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5073-6AB04&lang=en

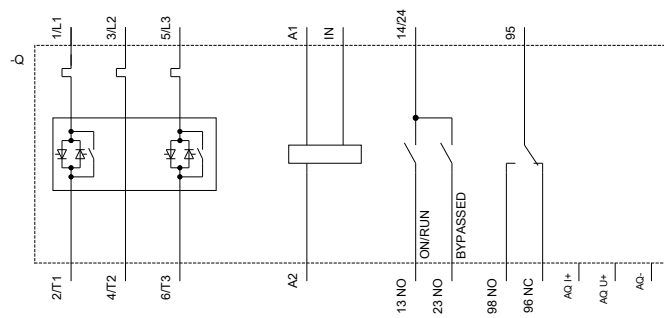
Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5073-6AB04/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5073-6AB04&objecttype=14&gridview=view1>





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