



Figure similar

SIRIUS soft starter 200-480 V 171 A, 110-250 V AC Screw terminals
Analog output

product brand name

SIRIUS

product category

Hybrid switching devices

product designation

Soft starter

product type designation

3RW50

manufacturer's article number

[3RW5980-0HS01](#)

- of standard HMI module usable
- of high feature HMI module usable
- of communication module PROFINET standard usable
- of communication module PROFIBUS usable
- of communication module Modbus TCP usable
- of communication module Modbus RTU usable
- of communication module Ethernet/IP
- of circuit breaker usable at 400 V
- of circuit breaker usable at 500 V
- of the gG fuse usable up to 690 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
- of line contactor usable up to 480 V
- of line contactor usable up to 690 V

[3RW5980-0HF00](#)

[3RW5980-0CS00](#)

[3RW5980-0CP00](#)

[3RW5980-0CT00](#)

[3RW5980-0CR00](#)

[3RW5980-0CE00](#)

[3VA2220-7MN32-0AA0](#); Type of assignment 1, $I_q = 20 \text{ kA}$

[3VA2220-7MN32-0AA0](#); Type of assignment 1, $I_q = 20 \text{ kA}$

[3NA3244-6](#); Type of coordination 1, $I_q = 65 \text{ kA}$

[3NE1 230-0](#); Type of coordination 2, $I_q = 65 \text{ kA}$

[3NE3 335](#); Type of coordination 2, $I_q = 65 \text{ kA}$

[3RT1056](#)

[3RT1064](#)

General technical data

starting voltage [%]

30 ... 100 %

stopping voltage [%]

50 %; non-adjustable

start-up ramp time of soft starter

0 ... 20 s

ramp-down time of soft starter

0 ... 20 s

current limiting value [%] adjustable

130 ... 700 %

accuracy class according to IEC 61557-12

5 %

certificate of suitability

Yes

- CE marking

Yes

- UL approval

Yes

- CSA approval

Yes

product component

No

- HMI-High Feature

Yes

- 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	1 400 V
service factor	1
surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	600 V
• between main and auxiliary circuit	15 g / 11 ms, from 12 g / 11 ms with potential contact lifting
shock resistance	15 mm to 6 Hz; 2g to 500 Hz
vibration resistance	AC-53a
utilization category according to IEC 60947-4-2	Q
reference code according to IEC 81346-2	09/23/2019
Substance Prohibition (Date)	
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
• PROFlenergy	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

operational current	171 A
• at 40 °C rated value	153 A
• at 50 °C rated value	141 A
• at 60 °C rated value	
operating voltage	200 ... 480 V
• rated value	
relative negative tolerance of the operating voltage	-15 %
relative positive tolerance of the operating voltage	10 %
operating power for 3-phase motors	
• at 230 V at 40 °C rated value	45 kW
• at 400 V at 40 °C rated value	90 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 coding switch on switch position 1	81 A
• at rotary coding switch on switch position 2	87 A
• at rotary coding switch on switch position 3	93 A
• at rotary coding switch on switch position 4	99 A
• at rotary coding switch on switch position 5	105 A
• at rotary coding switch on switch position 6	111 A
• at rotary coding switch on switch position 7	117 A
• at rotary coding switch on switch position 8	123 A
• at rotary coding switch on switch position 9	129 A

• at rotary coding switch on switch position 10	135 A
• at rotary coding switch on switch position 11	141 A
• at rotary coding switch on switch position 12	147 A
• at rotary coding switch on switch position 13	153 A
• at rotary coding switch on switch position 14	159 A
• at rotary coding switch on switch position 15	165 A
• at rotary coding switch on switch position 16	171 A
• minimum	81 A
minimum load [%]	15 %; Relative to smallest settable I_e
power loss [W] for rated value of the current at AC	
• at 40 °C after startup	29 W
• at 50 °C after startup	23 W
• at 60 °C after startup	20 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup	1 751 W
• at 50 °C during startup	1 478 W
• at 60 °C during startup	1 308 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
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 bypass operation rated value	80 mA
inrush current by closing the bypass contacts maximum	2.5 A
inrush current peak at application of control supply voltage maximum	12.2 A
duration of inrush current peak at application 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 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	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
fastening method	screw fixing
height	198 mm
width	120 mm
depth	249 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	5.2 kg

Connections/ Terminals

type of electrical connection	
• for main current circuit	busbar connection
• for control circuit	screw-type terminals
width of connection bar maximum	25 mm
type of connectable conductor cross-sections	
• for main contacts for box terminal using the front clamping point solid	16 ... 120 mm ²
• for main contacts for box terminal using the front clamping point finely stranded with core end processing	16 ... 120 mm ²
• for main contacts for box terminal using the front clamping point finely stranded without core end processing	10 ... 120 mm ²
• for main contacts for box terminal using the front clamping point stranded	16 ... 70 mm ²
• at AWG cables for main contacts for box terminal using the front clamping point	6 ... 250 kcmil
• for main contacts for box terminal using the back clamping point solid	16 ... 120 mm ²
• at AWG cables for main contacts for box terminal using the back clamping point	6 ... 250 kcmil
• for main contacts for box terminal using both clamping points solid	max. 1x 95 mm ² , 1x 120 mm ²
• for main contacts for box terminal using both clamping points finely stranded with core end processing	max. 1x 95 mm ² , 1x 120 mm ²
• for main contacts for box terminal using both clamping points finely stranded without core end processing	max. 1x 95 mm ² , 1x 120 mm ²
• for main contacts for box terminal using both clamping points stranded	max. 2x 120 mm ²
• for main contacts for box terminal using the back clamping point finely stranded with core end processing	16 ... 120 mm ²
• for main contacts for box terminal using the back clamping point finely stranded without core end processing	10 ... 120 mm ²
• for main contacts for box terminal using the back clamping point stranded	16 ... 120 mm ²
type of connectable conductor cross-sections	
• at AWG cables for main current circuit solid	4 ... 250 kcmil
• for DIN cable lug for main contacts stranded	16 ... 95 mm ²
• for DIN cable lug for main contacts finely stranded	25 ... 120 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 cables 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	10 ... 14 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	89 ... 124 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 Manual
---	--

ambient temperature	-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above -40 ... +80 °C
environmental category	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) acc. to IEC 60947-4-2: Class A
EMC emitted interference	
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: 3VA5225, max. 250 A; Iq = 10 kA
— usable for High Faults at 460/480 V according to UL	Siemens type: 3VA52, max. 250 A; Iq max = 65 kA
• of the fuse	
— usable for Standard Faults up to 575/600 V according to UL	Type: Class RK5 / K5, max. 400 A; Iq = 10 kA
— usable for High Faults up to 575/600 V according to UL	Type: Class J, max. 350 A; Iq = 100 kA
operating power [hp] for 3-phase motors	
• at 200/208 V at 50 °C rated value	50 hp
• at 220/230 V at 50 °C rated value	50 hp
• at 460/480 V at 50 °C rated value	100 hp
Safety related data	
protection class IP on the front according to IEC 60529	IP00; IP20 with cover
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with cover
ATEX	
certificate of suitability	
• ATEX	Yes
• IECEx	Yes
• UKEX	Yes
hardware fault tolerance according to IEC 61508 relating to ATEX	0
PFDAvg with low demand rate according to IEC 61508 relating to ATEX	0.09
PFHD with high demand rate according to EN 62061 relating to ATEX	9E-6 1/h
Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX	SIL1
T1 value for proof test interval or service life according to IEC 61508 relating to ATEX	3 a
Certificates/ approvals	
General Product Approval	For use in hazardous locations



[Confirmation](#)

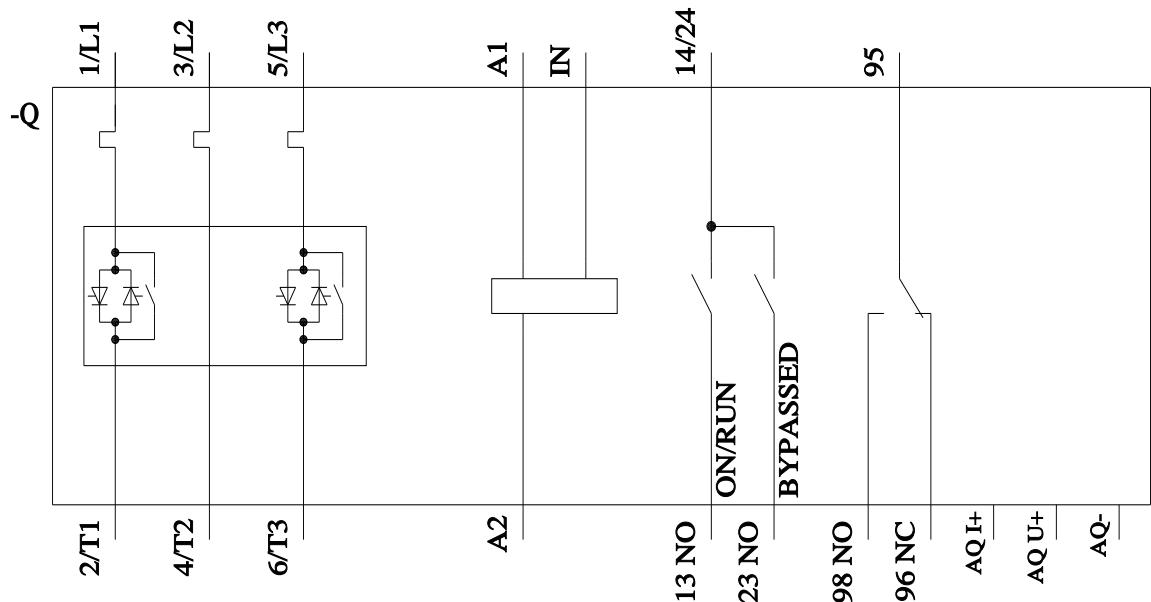


For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping



last modified:

1/14/2023

