



SIRIUS soft starter 200-480 V 171 A, 110-250 V AC Screw terminals without bypass, Analog output

product brand name	SIRIUS
manufacturer's article number	<ul style="list-style-type: none"> • of standard HMI module usable 3RW5980-0HS00 • of high feature HMI module usable 3RW5980-0HF00 • of communication module PROFINET standard usable 3RW5980-0CS00 • of communication module PROFIBUS usable 3RW5980-0CP00 • of communication module Modbus RTU usable 3RW5980-0CR00 • of circuit breaker usable at 400 V 3VA2325-7MN32-0AA0; Type of coordination 1, Iq = 30 kA, CLASS 10 • of circuit breaker usable at 500 V 3VA2325-7MN32-0AA0; Type of coordination 1, Iq = 10 kA, CLASS 10 • of circuit breaker usable at 400 V at inside-delta circuit 3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 30 kA, CLASS 10 • of circuit breaker usable at 500 V at inside-delta circuit 3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 10 kA, CLASS 10 • of the gG fuse usable up to 690 V 3NA3365-6; Type of coordination 1, Iq = 65 kA • of the gG fuse usable at inside-delta circuit up to 500 V 3NA3365-6; Type of coordination 1, Iq = 65 kA • of full range R fuse link for semiconductor protection usable up to 690 V 3NE1230-0; Type of coordination 2, Iq = 65 kA • of back-up R fuse link for semiconductor protection usable up to 690 V 3NE3335; Type of coordination 2, (soft starter in conjunction with the associated protective device circuit breaker/fuse), Iq = 65 kA
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 %
product component is supported	
• HMI-Standard	Yes
• HMI-High Feature	Yes
product feature integrated bypass contact system	No
number of controlled phases	3
buffering time in the event of power failure	
• for main current circuit	100 ms
• for control circuit	100 ms
insulation voltage rated value	480 V
degree of pollution	3, acc. to IEC 60947-4-2
impulse voltage rated value	6 V
blocking voltage of the thyristor maximum	1 400 V
service factor	1
surge voltage resistance rated value	6 kV

maximum permissible voltage for protective separation	
<ul style="list-style-type: none"> • between main and auxiliary circuit 	480 V
shock resistance	15 g / 11 ms, from 12 g / 11 ms with potential contact lifting
vibration resistance	15 mm to 6 Hz; 2 g to 500 Hz
utilization category according to IEC 60947-4-2	AC-53b
reference code according to IEC 81346-2	Q
Substance Prohibitance (day/month/year)	05/18/2018
SVHC substance name	Lead CAS-No. 7439-92-1 Lead monoxide (lead oxide) CAS-No. 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol CAS-No. 79-94-7 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5 Melamine CAS-No. 108-78-1 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol CAS-No. 119-47-1 Dibutylbis(pentane-2,4-dionato-O,O')tin CAS-No. 22673-19-4
Net Weight	6.5 kg
product function	
<ul style="list-style-type: none"> • ramp-up (soft starting) • soft stopping • Soft Torque • adjustable current limitation • intrinsic device protection • motor overload protection • inside-delta circuit • auto-RESET • manual RESET • remote reset • communication function • operating measured value display • error logbook • via software parameterizable • via software configurable • firmware update • removable terminal for control circuit • voltage ramp • analog output 	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes; By turning off the control supply voltage Yes Yes; with optional HMI Yes No No Yes Yes Yes Yes; 4 ... 20 mA (default) / 0 ... 10 V (parameterizable with High Feature HMI)
Power Electronics	
operational current	
<ul style="list-style-type: none"> • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value 	171 A 153 A 141 A
operational current at inside-delta circuit	
<ul style="list-style-type: none"> • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value 	296 A 265 A 244 A
operating voltage	
<ul style="list-style-type: none"> • rated value • at inside-delta circuit rated value 	200 ... 480 V 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 3-phase motors	
<ul style="list-style-type: none"> • at 230 V at 40 °C rated value • at 230 V at inside-delta circuit at 40 °C rated value • at 400 V at 40 °C rated value • at 400 V at inside-delta circuit at 40 °C rated value 	45 W 90 W 90 W 160 W
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
adjustable motor current	
• for inside-delta circuit at rotary coding switch on switch position 1	140 A
• for inside-delta circuit at rotary coding switch on switch position 2	151 A
• for inside-delta circuit at rotary coding switch on switch position 3	161 A
• for inside-delta circuit at rotary coding switch on switch position 4	171 A
• for inside-delta circuit at rotary coding switch on switch position 5	182 A
• for inside-delta circuit at rotary coding switch on switch position 6	192 A
• for inside-delta circuit at rotary coding switch on switch position 7	203 A
• for inside-delta circuit at rotary coding switch on switch position 8	213 A
• for inside-delta circuit at rotary coding switch on switch position 9	223 A
• for inside-delta circuit at rotary coding switch on switch position 10	234 A
• for inside-delta circuit at rotary coding switch on switch position 11	244 A
• for inside-delta circuit at rotary coding switch on switch position 12	255 A
• for inside-delta circuit at rotary coding switch on switch position 13	265 A
• for inside-delta circuit at rotary coding switch on switch position 14	275 A
• for inside-delta circuit at rotary coding switch on switch position 15	286 A
• for inside-delta circuit at rotary coding switch on switch position 16	296 A
• at inside-delta circuit minimum	140 A
minimum load [%]	15 %; Relative to smallest settable le
power loss [W] for rated value of the current at AC	
• at 40 °C after startup	12 W
• at 50 °C after startup	12 W
• at 60 °C after startup	12 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup	2 405 W
• at 50 °C during startup	2 037 W
• at 60 °C during startup	1 826 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
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	324 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
weight without packaging	7 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 DIN cable lug for main contacts stranded	2x (16 ... 95 mm ²)
• for DIN cable lug for main contacts finely stranded	2x (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)
wire length	

<ul style="list-style-type: none"> • between soft starter and motor maximum • at the digital inputs at AC maximum 	<p>800 m</p> <p>100 m</p>
tightening torque <ul style="list-style-type: none"> • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals 	<p>10 ... 14 N·m</p> <p>0.8 ... 1.2 N·m</p>
tightening torque [lbf·in] <ul style="list-style-type: none"> • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals 	<p>89 ... 124 lbf·in</p> <p>7 ... 10.3 lbf·in</p>

Ambient conditions	
installation altitude at height above sea level maximum	5 000 mm
ambient temperature <ul style="list-style-type: none"> • during operation • during storage and transport 	<p>-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above</p> <p>-40 ... +80 °C</p>
environmental category <ul style="list-style-type: none"> • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 	<p>3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6</p> <p>1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4</p> <p>2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)</p>

Communication/ Protocol	
communication module is supported <ul style="list-style-type: none"> • PROFINET standard • Modbus RTU • PROFIBUS 	<p>Yes</p> <p>Yes</p> <p>Yes</p>

Approvals Certificates

Environment	General Product Approval	EMV
Environmental Conformations 		  

other
Confirmation Confirmation 

Further information

Information on the packaging
<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage
<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RW5136-1XC14>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5136-1XC14>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5136-1XC14&lang=en

Cax online generator
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5136-1XC14>

Characteristic curves
[https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP="HAUPT"></mmp_prod_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)

Characteristic: Tripping characteristics, I²t, Let-through current
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5136-1XC14/char>

Characteristic: Installation altitude
https://www.automation.siemens.com/bilddb/index.aspx?gridview=view2&objkey=G_NSB0_XX_01704&showdetail=true&view=Search

Simulation Tool for Soft Starters (STS)
<https://support.industry.siemens.com/cs/ww/en/view/101494917>



