



Figure similar

SIRIUS soft starter 200-690 V 840 A, 110-250 V AC Spring-type terminals

product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW55
manufacturer's article number	• of high feature HMI module usable • of communication module PROFINET standard usable • of communication module PROFINET high-feature 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 circuit breaker usable at 400 V at inside-delta circuit • of circuit breaker usable at 500 V at inside-delta circuit • 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
General technical data	3RW5980-0HF00 3RW5980-0CS00 3RW5950-0CH00 3RW5980-0CP00 3RW5980-0CT00 3RW5980-0CR00 3RW5980-0CE00 3VA2510-6HN32-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10 3VA2510-6HN32-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10 3VA2716-7AB05-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10 3VA2716-7AB05-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10 2x3NA3365-6; Type of coordination 1, Iq = 65 kA 3NB3351-1KK26: Type of coordination 2, Iq = 65 kA 3NC3343-1U: Type of coordination 2, Iq = 65 kA
starting voltage [%]	20 ... 100 %
stopping voltage [%]	50 ... 50 %
start-up ramp time of soft starter	0 ... 360 s
ramp-down time of soft starter	0 ... 360 s
start torque [%]	10 ... 100 %
stopping torque [%]	10 ... 100 %
torque limitation [%]	20 ... 200 %
current limiting value [%] adjustable	125 ... 800 %
breakaway voltage [%] adjustable	40 ... 100 %
breakaway time adjustable	0 ... 2 s
number of parameter sets	3
accuracy class acc. to IEC 61557-12	5 %
certificate of suitability	Yes
• CE marking	

• UL approval • CSA approval	Yes Yes
product component	
• HMI-High Feature • is supported HMI-High Feature	Yes Yes
product feature integrated bypass contact system	Yes
number of controlled phases	3
trip class	CLASS 10A / 10E (default) / 20E / 30E; acc. to IEC 60947-4-2
current unbalance limiting value [%]	10 ... 60 %
ground-fault monitoring limiting value [%]	10 ... 95 %
buffering time in the event of power failure	
• for main current circuit • for control circuit	100 ms 100 ms
idle time adjustable	0 ... 255 s
insulation voltage rated value	690 V
degree of pollution	3, acc. to IEC 60947-4-2
impulse voltage rated value	8 kV
blocking voltage of the thyristor maximum	1 800 V
service factor	1.15
surge voltage resistance rated value	8 kV
maximum permissible voltage for safe isolation	
• between main and auxiliary circuit	690 V; does not apply for thermistor connection
shock resistance	15 g / 11 ms, from 6 g / 11 ms with potential contact lifting
vibration resistance	15 mm up to 6 Hz; 2 g up to 500 Hz
recovery time after overload trip adjustable	60 ... 1 800 s
utilization category acc. to IEC 60947-4-2	AC 53a
reference code acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	11.02.2019
product function	
• ramp-up (soft starting) • ramp-down (soft stop) • breakaway pulse • adjustable current limitation • creep speed in both directions of rotation • pump ramp down • DC braking • motor heating • slave pointer function • trace function • intrinsic device protection • motor overload protection	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)
• evaluation of thermistor motor protection • inside-delta circuit • auto-RESET • manual RESET • remote reset • communication function • operating measured value display • event list • error logbook • via software parameterizable • via software configurable • screw terminal • spring-loaded terminal • PROFinergy	Yes; Type A PTC or Klixon / Thermoclick Yes; Only up to 600 V operating voltage Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes No Yes Yes; in connection with the PROFINET Standard and PROFINET High-Feature communication modules
• firmware update • removable terminal for control circuit • voltage ramp • torque control	Yes Yes Yes Yes

- combined braking
- analog output
- programmable control inputs/outputs
- condition monitoring
- automatic parameterisation
- application wizards
- alternative run-down
- emergency operation mode
- reversing operation
- soft starting at heavy starting conditions

Yes
 Yes; 4 ... 20 mA (default) / 0 ... 10 V
 Yes
 Yes
 Yes
 Yes
 Yes
 Yes
 Yes
 Yes

Power Electronics

operational current	
• at 40 °C rated value	840 A
• at 40 °C rated value minimum	168 A
• at 50 °C rated value	748 A
• at 60 °C rated value	670 A
operational current at inside-delta circuit	
• at 40 °C rated value	1 454 A
• at 50 °C rated value	1 295 A
• at 60 °C rated value	1 160 A
operating voltage	
• rated value	200 ... 690 V
• at inside-delta circuit rated value	200 ... 600 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	
• at 230 V at 40 °C rated value	250 kW
• at 230 V at inside-delta circuit at 40 °C rated value	450 kW
• at 400 V at 40 °C rated value	450 kW
• at 400 V at inside-delta circuit at 40 °C rated value	800 kW
• at 500 V at 40 °C rated value	560 kW
• at 500 V at inside-delta circuit at 40 °C rated value	900 kW
• at 690 V at 40 °C rated value	800 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 %
minimum load [%]	10 %; Relative to set I _e
power loss [W] for rated value of the current at AC	
• at 40 °C after startup	252 W
• at 50 °C after startup	205 W
• at 60 °C after startup	164 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup	14 441 W
• at 50 °C during startup	12 187 W
• at 60 °C during startup	10 405 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	-15 %

voltage at AC at 60 Hz	
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	100 mA
holding current in bypass operation rated value	210 mA
locked-rotor current at close of bypass contact maximum	1 A
inrush current peak at application of control supply voltage maximum	44 A
duration of inrush current peak at application of control supply voltage	1.7 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	4
• parameterizable	4
• number of digital outputs	4
• number of digital outputs parameterizable	3
• number of digital outputs not parameterizable	1
digital output version	3 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	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)
fastening method	screw fixing
height	764 mm
width	478 mm
depth	241 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	45 kg
Connections/ Terminals	
type of electrical connection	
• for main current circuit	busbar connection
• for control circuit	spring-loaded terminals
width of connection bar maximum	55 mm
wire length for thermistor connection	
• with conductor cross-section = 0.5 mm² maximum	50 m
• with conductor cross-section = 1.5 mm² maximum	150 m
• with conductor cross-section = 2.5 mm² maximum	250 m
type of connectable conductor cross-sections	
• for DIN cable lug for main contacts stranded	2x (50 ... 240 mm²)
• for DIN cable lug for main contacts finely stranded	2x (70 ... 240 mm²)
type of connectable conductor cross-sections	
• for control circuit solid	2x (0.25 ... 1.5 mm²)
• for control circuit finely stranded with core end processing	2x (0.25 ... 1.5 mm²)
• at AWG cables for control circuit solid	2x (24 ... 16)
• at AWG cables for control circuit finely stranded with	2x (24 ... 16)

core end processing	
wire length	
• between soft starter and motor maximum	800 m
• at the digital inputs at DC maximum	1 000 m
tightening torque	
• for main contacts with screw-type terminals	20 ... 35 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	177 ... 310 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	2 000 m; Derating as of 1000 m, see catalog
ambient temperature	
• during operation	-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above
• 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 60947-4-2: Class A
Communication/ Protocol	
communication module is supported	
• PROFINET standard	Yes
• PROFINET high-feature	Yes
• EtherNet/IP	Yes
• Modbus RTU	Yes
• Modbus TCP	Yes
• PROFIBUS	Yes
UL/CSA ratings	
manufacturer's article number	
• of the fuse	
— usable for Standard Faults up to 575/600 V according to UL	Type: Class J / L, max. 2500 A; Iq = 42 kA
— usable for High Faults up to 575/600 V according to UL	Type: Class J / L, max. 2500 A; Iq = 100 kA
— usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL	Type: Class J / L, max. 2500 A; Iq = 42 kA
— usable for High Faults at inside-delta circuit up to 575/600 V according to UL	Type: Class J / L, max. 2500 A; Iq = 100 kA
operating power [hp] for 3-phase motors	
• at 200/208 V at 50 °C rated value	250 hp
• at 220/230 V at 50 °C rated value	300 hp
• at 460/480 V at 50 °C rated value	600 hp
• at 575/600 V at 50 °C rated value	800 hp
• at 200/208 V at inside-delta circuit at 50 °C rated value	450 hp
• at 220/230 V at inside-delta circuit at 50 °C rated value	550 hp
• at 460/480 V at inside-delta circuit at 50 °C rated value	1 150 hp
• at 575/600 V at inside-delta circuit at 50 °C rated value	1 450 hp
contact rating of auxiliary contacts according to UL	R300-B300
Safety related data	
protection class IP on the front acc. to IEC 60529	IP00
electromagnetic compatibility	acc. to IEC 60947-4-2
ATEX	

certificate of suitability	Yes Yes BVS 18 ATEX F 003 X
• ATEX • IECEx • according to ATEX directive 2014/34/EU	
type of protection according to ATEX directive 2014/34/EU	II (2)G [Ex eb Gb] [Ex db Gb] [Ex pxb Gb], II (2)D [Ex tb Db] [Ex pxb Db], I (M2) [Ex db Mb]
hardware fault tolerance acc. to IEC 61508 relating to ATEX	0
PFDavg with low demand rate acc. to IEC 61508 relating to ATEX	0.008
PFHD with high demand rate acc. to EN 62061 relating to ATEX	0.0000005 1/h
Safety Integrity Level (SIL) acc. to IEC 61508 relating to ATEX	SIL1
T1 value for proof test interval or service life acc. to IEC 61508 relating to ATEX	3 y

Certificates/ approvals

General Product Approval	EMC	For use in hazardous locations
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For use in hazardous locations	Declaration of Conformity	Test Certificates	Marine / Shipping
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[Type Test Certificates/Test Report](#)



Marine / Shipping	other
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[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=3RW5554-2HA16>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5554-2HA16>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5554-2HA16>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5554-2HA16&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

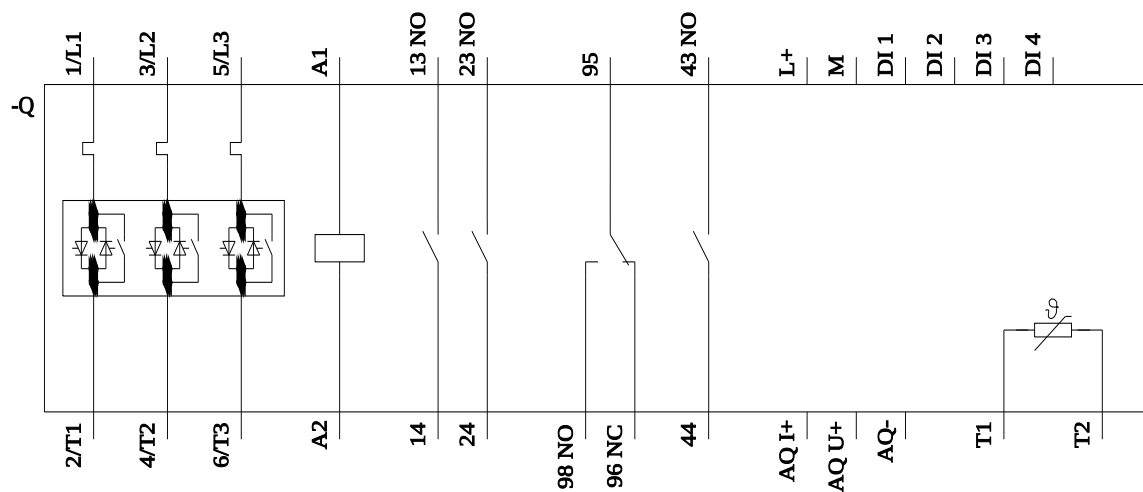
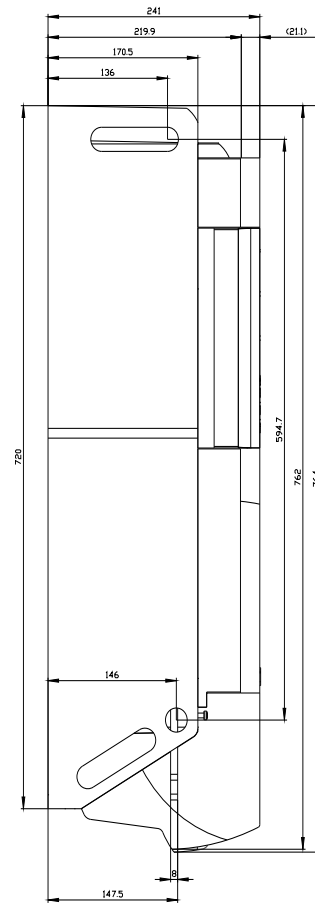
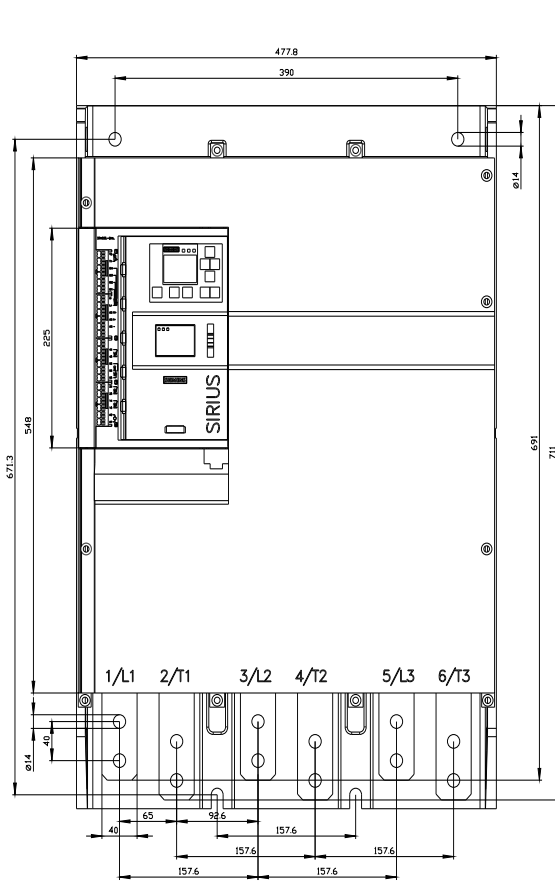
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5554-2HA16/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5554-2HA16&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

<https://support.industry.siemens.com/cs/ww/en/view/101494917>



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