SIEMENS

Data sheet 3RW5525-1HF04



SIRIUS soft starter 200-480 V 63 A, 24 V AC/DC Screw terminals Fail-safe





product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Failsafe soft starters
product type designation	3RW55
manufacturer's article number	
 of high feature HMI module usable 	3RW5980-0HF00
 of communication module PROFINET standard usable 	3RW5980-0CS00
• of communication module PROFINET high-feature usable	3RW5950-0CH00
 of communication module PROFIBUS usable 	3RW5980-0CP00
 of communication module Modbus TCP usable 	3RW5980-0CT00
 of communication module Modbus RTU usable 	3RW5980-0CR00
 of communication module Ethernet/IP 	3RW5980-0CE00
 of circuit breaker usable at 400 V 	3VA2163-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V 	3VA2163-7MN32-0AA0; Type of coordination 1, Iq = 20 kA, CLASS 10
 of circuit breaker usable at 400 V at inside-delta circuit 	3VA2110-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V at inside-delta circuit 	3VA2110-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of the gG fuse usable up to 690 V 	3NA3830-6; Type of coordination 1, Iq = 65 kA
 of the gG fuse usable at inside-delta circuit up to 500 V 	3NA3830-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	3NE1022-0; Type of coordination 2, Iq = 65 kA
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE3227; Type of coordination 2, Iq = 65 kA
 of the redundant contactor for applications > SIL 1 according to EN 62061 	3RT2046
 of the redundant contactor for applications > SIL 1 at inside-delta circuit according to EN 62061 	3RT2046
 of the redundant contactor for applications > SIL 1 according to EN ISO 13849-1 	3RT1055
 of the redundant contactor for applications > SIL 1 at inside-delta circuit according to EN ISO 13849-1 	3RT1055
General technical data	
starting voltage [%]	20 100 %
stopping voltage [%]	50 %; non-adjustable
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	5 (based on IEC 61557-12)
certificate of suitability	
CE marking	Yes
UL approval	Yes
CSA approval	Yes
product component	
HMI-High Feature	Yes
• is supported HMI-High Feature	Yes
product feature integrated bypass contact system	Yes
number of controlled phases	3
current unbalance limiting value [%]	10 60 %
ground-fault monitoring limiting value [%]	10 95 %
buffering time in the event of power failure	10 30 /0
• for main current circuit	100 ms
• for control circuit	100 ms
idle time adjustable	0 255 s
insulation voltage rated value	480 V
degree of pollution	3, acc. to IEC 60947-4-2
· ·	3, acc. to IEC 60947-4-2 6 kV
impulse voltage rated value blocking voltage of the thyristor maximum	1 400 V
service factor	1.15
surge voltage resistance rated value	6 kV
maximum permissible voltage for protective separation	400 V/ door not apply for the recipion
between main and auxiliary circuit	480 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 according to IEC 60947-4-2	AC 53a
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	11/22/2019
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 Dibutylbis(pentane-2,4-dionato-O,O')tin - 22673-19-4 Lead titanium trioxide - 12060-00-3
Weight	6.5 kg
product function	
ramp-up (soft starting)	Yes
• ramp-down (soft stop)	Yes
breakaway pulse	100
	Yes
adjustable current limitation	
 adjustable current limitation creep speed in both directions of rotation	Yes
•	Yes Yes
creep speed in both directions of rotation	Yes Yes
creep speed in both directions of rotationpump ramp down	Yes Yes Yes Yes
creep speed in both directions of rotationpump ramp downDC braking	Yes Yes Yes Yes Yes
 creep speed in both directions of rotation pump ramp down DC braking motor heating 	Yes Yes Yes Yes Yes Yes Yes
 creep speed in both directions of rotation pump ramp down DC braking motor heating min/max pointer trace function 	Yes Yes Yes Yes Yes Yes Yes Yes
 creep speed in both directions of rotation pump ramp down DC braking motor heating min/max pointer 	Yes
 creep speed in both directions of rotation pump ramp down DC braking motor heating min/max pointer trace function intrinsic device protection 	Yes
 creep speed in both directions of rotation pump ramp down DC braking motor heating min/max pointer trace function intrinsic device protection motor overload protection 	Yes
 creep speed in both directions of rotation pump ramp down DC braking motor heating min/max pointer trace function intrinsic device protection motor overload protection evaluation of thermistor motor protection 	Yes
 creep speed in both directions of rotation pump ramp down DC braking motor heating min/max pointer trace function intrinsic device protection motor overload protection evaluation of thermistor motor protection inside-delta circuit 	Yes
 creep speed in both directions of rotation pump ramp down DC braking motor heating min/max pointer trace function intrinsic device protection motor overload protection evaluation of thermistor motor protection inside-delta circuit auto-RESET 	Yes
 creep speed in both directions of rotation pump ramp down DC braking motor heating min/max pointer trace function intrinsic device protection motor overload protection evaluation of thermistor motor protection inside-delta circuit auto-RESET manual RESET remote reset 	Yes
 creep speed in both directions of rotation pump ramp down DC braking motor heating min/max pointer trace function intrinsic device protection motor overload protection evaluation of thermistor motor protection inside-delta circuit auto-RESET manual RESET 	Yes

• error logbook	Yes
• via software parameterizable	Yes
• via software configurable	Yes
screw terminal	Yes
 spring-loaded terminal 	No
PROFlenergy	Yes; in connection with the PROFINET Standard and PROFINET High-Feature communication modules
firmware update	Yes
removable terminal for control circuit	Yes
voltage ramp	Yes
• torque control	Yes
combined braking	Yes
analog output	Yes; 4 20 mA (default) / 0 10 V
 programmable control inputs/outputs 	Yes
condition monitoring	Yes
automatic parameterisation	Yes
application wizards	Yes
alternative run-down	Yes
emergency operation mode	Yes
reversing operation	Yes
soft starting at heavy starting conditions	Yes
Power Electronics	
operational current	
at 40 °C rated value	63 A
 at 40 °C rated value minimum 	13 A
• at 50 °C rated value	55.5 A
• at 60 °C rated value	50.5 A
operational current at inside-delta circuit	
• at 40 °C rated value	109 A
• at 50 °C rated value	96 A
• at 60 °C rated value	87.5 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 3-phase motors	
at 230 V at 40 °C rated value	18.5 kW
 at 230 V at inside-delta circuit at 40 °C rated value 	30 kW
• at 400 V at 40 °C rated value	30 kW
• at 400 V at inside-delta circuit at 40 °C rated value	55 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 le
power loss [W] for rated value of the current at AC	
• at 40 °C after startup	19 W
• at 50 °C after startup	17 W
at 60 °C after startup	15 W
power loss [W] at AC at current limitation 350 %	
 at 40 °C during startup 	1 056 W
 at 50 °C during startup 	732 W
at 60 °C during startup	647 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	24 V
• at 60 Hz rated value	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	440 mA
holding current in bypass operation rated value	870 mA
inrush current by closing the bypass contacts maximum	6.3 A
inrush current peak at application of control supply voltage maximum	7.5 A
duration of inrush current peak at application of control supply voltage	20 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	осоро стоиррт
number of digital inputs	4
with fail-safe	1
parameterizable	4
<u> </u>	
number of digital outputs	3
Number of digital outputs with fail-safe	1
number of digital outputs parameterizable	2
number of digital outputs not parameterizable	1
digital output version	2 normally-open contacts (NO) / 1 normally-closed contact (NC) / 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
Response times	
OFF-delay time with safety-related request when switched off via control inputs maximum	100 ms
Installation/ mounting/ dimensions	
mounting position	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)
fastening method	screw fixing
height	306 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	5.9 kg
Connections/ Terminals	
type of electrical connection	

4 for control circuit screw-type terminals with length for thermistor connection 25 mm a with conductor cross-section = 0.5 mm² maximum 50 m a with conductor cross-section = 1.5 mm² maximum 250 m y pop of connectable conductor cross-sections for main contacts for box terminal 150 m a using the front clamping point solid 15 (2.516 mm²) a using the front clamping point standed 15 (2.5	for main current circuit	box terminal
with length for thermistor connection with conductor cross-section = 0.5 mm² maximum yepp of connectable conductor cross-sections for main connectable per connectable conductor cross-sections for connectable conductor cross-sections for connectable conductor cross-sections for connectable conductor cross-sections for control cross static for auxiliary and control contacts with scree-type terminals for auxiliary stat		
with conductor cross-section = 0.5 mm² maximum with conductor cross-section = 2.5 mm² maximum yello connectable conductor cross-sections for main contacts for box terminal contacts with a contact co		
with conductor cross-section > 0.5 mm² maximum with conductor cross-section > 2.5 mm² maximum yupo of connectable conductor cross-sections for main constant for but champing point standed using the fort clamping point standed using both clamping point standed with core end processing using both clamping point standed using the back clamping point standed using both clamping point standed visit both clamping both clamping		
with conductor cross-section = 2.5 mm² maximum very of connectable conductor cross-sections for main contects for tox knemings using the front clamping point solid using the front clamping point stranded using both clamping point stranded using both clamping point stranded with core end processing using both clamping point stranded using the back clamping point stranded using the back clamping point stranded very the back clamping point stranded with core end processing very the back clamping point stranded very		50 m
spee of connectable conductor cross-sections for main contacts for box terminal • using the front clamping point solid • using the front clamping point standed • using the back clamping point standed • using the back clamping point solid • using the back clamping point solid • using the back clamping point solid • using both clamping points situated • using both clamping points stranded • using both clamping points stranded • using both clamping point situated • using both clamping point situated • using the back clamping point stranded • for connectable conductor cross-sections • for control circuit straid • for control circuit straid • for control circuit straid • for main contacts with screw-type terminals • for auxiliary and control circuits solid • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with scre	 with conductor cross-section = 1.5 mm² maximum 	
contact for box terminal		
suising the front clamping point stranded with core end processing using the back clamping point solid 1x (1070 mm²) using both clamping point solid 1x (2550 mm²) using both clamping point solid 2x (2.516 mm²) using both clamping point solid 2x (2.516 mm²) using both clamping point solid 2x (2.516 mm²) using both clamping point stranded with core end processing 2x (616 mm²), 2x (1050 mm²) using both clamping point stranded with core end processing 2x (616 mm²), 2x (1050 mm²) using both clamping point stranded with core end processing 2x (616 mm²), 2x (1050 mm²) using both clamping point stranded with core end processing 1x (2.550 mm²) using the back clamping point stranded with core end processing 1x (2.550 mm²) using the back clamping point stranded with core end processing 1x (2.550 mm²), 2x (0.52.5 mm²) using the back clamping point stranded with core end processing 1x (2.010 mm²), 2x (0.52.5 mm²) using the back clamping point stranded with core end processing 1x (2.010 mm²), 2x (0.52.5 mm²) using the back clamping point stranded with core end processing 1x (2.010 mm²), 2x (0.52.5 mm²) using the back clamping point stranded with core end processing 1x (2.010 mm²), 2x (0.52.5 mm²) using the back clamping point stranded with core end processing 1x (2.010 mm²), 2x (0.52.5 mm²) using the back clamping point stranded with core end processing 1x (2.010 mm²), 2x (0.52.5 mm²) using the back clamping point stranded with core end processing 1x (2.010 mm²), 2x (0.52.5 mm²) using the back clamping point stranded with core end processing 1x (2.010 mm²), 2x (0.52.5 mm²) using the back clamping point stranded with core end processing 1x (2.010 mm²), 2x (0.52.5 mm²) using the back clamping point stranded with core end processing 1x (2.010 mm²), 2x (2.010 mm²)		
end processing • using the front clamping point stranded • using the back clamping point solid • r box terminal using the back clamping point • r box terminal using the back clamping point solid • using both clamping points stranded • using the back clamping point stranded • for control circuit finely stranded with core end processing • for control circuit solid • for control circuit finely stranded with core end processing • for aVVG cables for control circuit solid • for own and control corticut solid • for in a control circuit solid • for in a control circuit solid • for main contacts with screw-type terminals • for avxiliary and control contacts with screw-type terminals • for avxiliary and control contacts with screw-type terminals • for avxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for avxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for avxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for avxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for avxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for avxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for avxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for avxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for avxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for avxiliary and control contacts with screw-type • for main contacts with screw-type termina	 using the front clamping point solid 	1x (2.5 16 mm²)
		1x (2.5 50 mm²)
• Loox terminal using the back clamping point solid values by stranded with core end processing values by the clamping points stranded with core end processing values by the clamping point stranded with core end processing values by the clamping point finely stranded with core end processing values beack clamping point finely stranded with core end processing values beack clamping point finely stranded with core end processing values by the control circuit stranded vith core end processing values of the control circuit solid values of the digital inputs at DC maximum values of the digital inputs at DC maximum values of the digital inputs at DC maximum values of the control control contacts with screw-type terminals values of control contacts with screw-type terminals values of control contacts with screw-type terminals values of the control contacts with screw-type terminals values o	 using the front clamping point stranded 	1x (10 70 mm²)
• using both clamping points sold • using both clamping points stranded • using both clamping points stranded • using the back clamping point finely stranded with core end processing • using the back clamping point stranded • for control circuit sold • for AWG cables for control circuit sold • for AWG cables for control circuit sold • at the digital inputs at DC maximum • of main contacts with screw-type terminals • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contact	 using the back clamping point solid 	1x (2.5 16 mm²)
• using both clamping points finely stranded with core end processing • using the back clamping point stranded • using the back clamping point finely stranded with core end processing • using the back clamping point stranded • using the back clamping point stranded • using the back clamping point stranded • to sing the back clamping point stranded • for control circuit solid • for control circuit solid • for control circuit frely standed with core end processing • for AVIG cables for control circuit solid • for control circuit frely standed with core end processing • for AVIG cables for control circuit solid • for control circuit frely standed with core end processing • for AVIG cables for control circuit solid • for control circuit frely standed with core end processing • for AVIG cables for control circuit solid • for control circuit frely standed with core end processing • for avuillary and control contacts with screw-type terminals • for avuillary and control contacts with screw-type • for main contacts with screw-type terminals • for avuillary and control contacts with screw-type • for main contacts with screw-type terminals • for avuillary and control contacts with screw-type • for main contacts with screw-type terminals • for avuillary and control contacts with screw-type • for main contacts with screw-type terminals • for avuillary and control contacts with screw-type • for avuillary and control contacts with screw-type • for avuillary and control contacts with screw-type • during storage and transport • during storage and transport • during operation • during operation according to IEC 60721 • during potential [CO2 eq] during manufacturing global warming potential [CO2 eq] during passes global warming potential [CO2 eq] during passes global warming potential [CO2 eq] during operation global warm	 r box terminal using the back clamping point 	1x (10 2/0)
voising both clamping point stranded voising be back clamping point finely stranded with core end processing voising the back clamping point stranded tx (2.5 50 mm²) tx (2.5 50 mm²) type of connectable conductor cross-sections tx (10 70 mm²) tx (10 7	 using both clamping points solid 	2x (2.5 16 mm²)
• using the back clamping point finely stranded with core end processing a better conductor cross-sections • using the back clamping point stranded 1x (10 70 mm²) typo of connectable conductor cross-sections • for control circuit solid • for control circuit finely stranded with core end processing • for AWG cables for control circuit solid • for AWG cables for control circuit solid • for fawG cables for control circuit solid • a the digital inputs at DC maximum • at the digital inputs at DC maximum • at the digital inputs at DC maximum • at the digital inputs at DC maximum • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for auxiliary and control contacts with s	The state of the s	2x (2.5 35 mm²)
eusing the back clamping point stranded type of connectable conductor cross-sections of or control circuit solid for control contacts with screw-type for main condacts with screw-type terminals of or auxiliary and control contacts with screw-type for main condacts with screw-type terminals of or auxiliary and control contacts with screw-type for main condacts with screw-type terminals of or auxiliary and control contacts with screw-type for auxiliary and	 using both clamping points stranded 	2x (6 16 mm²), 2x (10 50 mm²)
type of connectable conductor cross-sections of control circuit solid 1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²) 1x (0.5 2.5 mm²) 2x (0.5 2.5		1x (2.5 50 mm²)
• for control circuit solid • for control circuit finely stranded with core end processing • for AVMC ables for control circuit finely stranded with core end processing • for AVMC ables for control circuit solid vire length • between soft starter and motor maximum • at the digital inputs at DC maximum • at the digital inputs at DC maximum • for main contacts with screw-type terminals • for main contacts with screw-type terminals • for auxiliary and control contacts	using the back clamping point stranded	1x (10 70 mm²)
• for control circuit finely stranded with core end processing • for AWG cables for control circuit solid wire longth • between soft starter and motor maximum • at the digital inputs at DC maximum 1 000 m 1 tightening forque • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with screw-type • for main contacts with screw-type terminals • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with screw-type • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type • for main contacts	type of connectable conductor cross-sections	
• for AWG cables for control circuit solid wire length • between soft starter and motor maximum • at the digital inputs at DC maximum 1 000 m tightening torque • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals tightening torque (Ibf-in) • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals **To auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals **To auxiliary and control contacts with screw-type terminals **To auxiliary and control contacts with screw-type terminals **To auxiliary and control contacts with screw-type terminals **Anbient conditions** installation attitude at height above sea level maximum • during operation • during storage and transport • during storage and transport • during operation according to IEC 60721 • during operation according to IEC 60721 • during storage according to IEC 60721 • during storage according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 • during transport according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 607	 for control circuit solid 	1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)
wire length • between soft starter and motor maximum • at the digital inputs at DC maximum 1000 m tightening torque • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for main contacts with screw-type terminals • for main contacts with screw-type terminals • for main contacts with screw-type terminals • for main contacts with screw-type terminals • for main contacts with screw-type terminals • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals ### Arabient conditions Installation altitude at height above sea level maximum • during operation • during storage and transport • during storage and ransport • during storage according to IEC 60721 • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 • duri	• for control circuit finely stranded with core end processing	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
between soft starter and motor maximum at the digital inputs at DC maximum of main contacts with screw-type terminals of or auxiliary and control contacts with screw-type terminals tightening torque [lbf-in] of or main contacts with screw-type terminals of or auxiliary and control contacts with screw-type terminals tightening torque [lbf-in] of or main contacts with screw-type terminals of or auxiliary and control contacts with screw-type terminals Ambient conditions installation altitude at height above sea level maximum abient temperature of during operation of during operation of during storage and transport of during storage according to IEC 60721 of during transport according to IEC 60721 of during	for AWG cables for control circuit solid	1x (20 12), 2x (20 14)
tightening torque • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals ### Armblent conditions ### Armblent conditions ### Installation altitude at height above sea level maximum ambient temperature • during operation • during storage and transport • during storage and transport • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 • ZK2, ZC1, ZS1, ZM2 (max. fall height 0.3 m) #### Installation altitude at height advises a space of the devices). The devices of t	wire length	
tightening torque • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for main contacts with screw-type terminals • for for main contacts with screw-type terminals • for for main contacts with screw-type terminals • for for main control terminals • for for main c	 between soft starter and motor maximum 	800 m
for main contacts with screw-type terminals	at the digital inputs at DC maximum	1 000 m
tightening torque [lbf·in] of or main contacts with screw-type terminals of or auxiliary and control contacts with screw-type terminals of or auxiliary and control contacts with screw-type terminals of or auxiliary and control contacts with screw-type terminals of or auxiliary and control contacts with screw-type terminals installation altitude at height above sea level maximum ambient conditions Installation altitude at height above sea level maximum of during operation of during storage and transport of during storage and transport of during operation according to IEC 60721 of during storage according to IEC 60721 of during storage according to IEC 60721 of during transport according to IEC 60721 of during during potential [CO2 eq] during analytic according to IEC 60721 of during transport according to IEC 60721 and transport according to IEC 60721 and transport acco	tightening torque	
tightening torque [lbf-in] • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals installation altitude at height above sea level maximum 2 000 m; Derating as of 1000 m, see catalog ambient temperature • during operation • during storage and transport • during storage and transport • during operation according 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 according to IEC 60721 1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4 • during transport according to IEC 60721 2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m) Environmental footprint global warming potential [CO2 eq] during manufacturing global warming potential [CO2 eq] during manufacturing global warming potential [CO2 eq] during sales global warming potential [CO2 eq] after end of life 19.4 kg Siemens Eco Profile (SEP) Electromagnetic compatibility EMC emitted interference acc. to IEC 60947-4-2: Class A Communication/ Protocol communication/ Protocol communication/ Protocol etherNet/IP Yes EtherNet/IP	 for main contacts with screw-type terminals 	4.5 6 N·m
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communication module is supported • PROFINET standard Yes • PROFINET high-feature Yes • EtherNet/IP Yes		acc. to IEC 60947-4-2: Class A
 PROFINET standard PROFINET high-feature EtherNet/IP Yes Yes Yes 	Communication/ Protocol	
PROFINET high-featureEtherNet/IPYes	communication module is supported	
• EtherNet/IP Yes	PROFINET standard	Yes
	 PROFINET high-feature 	Yes
Modbus RTU 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: 3RV2742, max. 70 A or 3VA51, max. 125 A; Iq = 10 kA
— 60/480 V according to UL	Siemens type: 3VA51, max. 125 A; Iq max = 65 kA
— at 460/480 V at inside-delta circuit according to UL	Siemens type: 3VA51, max. 125 A; Iq = 10 kA
- 60/480 V at inside-delta circuit according to UL	Siemens type: 3VA51, max. 125 A; Iq max = 65 kA
— at 575/600 V according to UL	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 125 A; Iq = 10 kA
- 75/600 V at inside-delta circuit according to UL	Siemens type: 3VA51, max. 125 A; Iq max = 65 kA
— at 575/600 V at inside-delta circuit according to UL	Siemens type: 3VA51, max. 125 A; Iq = 10 kA
• of the fuse	
 usable for Standard Faults up to 575/600 V according to UL 	Type: Class RK5 / K5, max. 200 A; Iq = 10 kA
— usable for High Faults up to 575/600 V according to UL	Type: Class J / L, max. 225 A; Iq = 100 kA
 usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class RK5 / K5, max. 200 A; Iq = 10 kA
usable for High Faults at inside-delta circuit up to 575/600 V according to UL	Type: Class J / L, max. 225 A; Iq = 100 kA
operating power [hp] for 3-phase motors	
• at 200/208 V at 50 °C rated value	15 hp
• at 220/230 V at 50 °C rated value	20 hp
• at 460/480 V at 50 °C rated value	40 hp
 at 200/208 V at inside-delta circuit at 50 °C rated value 	30 hp
 at 220/230 V at inside-delta circuit at 50 °C rated value 	30 hp
at 460/480 V at inside-delta circuit at 50 °C rated value	75 hp
contact rating of auxiliary contacts according to UL	R300-B300
Safety related data	
product function suitable for safety function	Yes
suitability for use	
safety-related switching on	No
safety-related switching OFF	Yes
safe state	Open load circuit
function test interval maximum	1a
diagnostics test interval by internal test function maximum	1 000 s
stop category according to IEC 60204-1	0
B10d value	1 000 000
average diagnostic coverage level (DCavg)	90 %
MTTFd IEC 62061	39 a
	SIL 1
Safety Integrity Level (SIL) according to IEC 62061	1E-6 1/h
PFHD with high demand rate according to IEC 62061 ISO 13849	1E-0 I/II
performance level (PL) according to ISO 13849-1	PL c
category according to ISO 13849-1	2
IEC 61508	
Safety Integrity Level (SIL)	
according to IEC 61508	SIL 1
safety device type according to IEC 61508-2	Туре В
PFHD with high demand rate according to IEC 61508	1E-6 1/h
PFDavg with low demand rate according to IEC 61508	0.09
Safe failure fraction (SFF)	60 %
hardware fault tolerance according to IEC 61508	0
T1 value of service life according to IEC 61508	20 a
Electrical Safety	
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	
Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX	SIL1

PFHD with high demand rate according to IEC 61508 relating to ATEX	5E-7 1/h
PFDavg with low demand rate according to IEC 61508 relating to ATEX	0.008
hardware fault tolerance according to IEC 61508 relating to ATEX	0
T1 value for proof test interval or service life according to IEC 61508 relating to ATEX	3 a
certificate of suitability	
• ATEX	Yes
• IECEx	Yes
 according to ATEX directive 2014/34/EU 	BVS 18 ATEX F 003 X
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]

Approvals Certificates

General Product Approval





Confirmation







EMV

For use in hazardous locations

Functional Saftey

Test Certificates



<u>KC</u>



IECEx



Type Examination Certificate Type Test Certificates/Test Report

Marine / Shipping









Confirmation

other



Environment

Environment



Environmental Confirmations

Further information

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

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=3RW5525-1HF04

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5525-1HF04

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5525-1HF04

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

 $\underline{\text{http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5525-1HF04\&lang=en}}$

Characteristic: Tripping characteristics, I²t, Let-through current

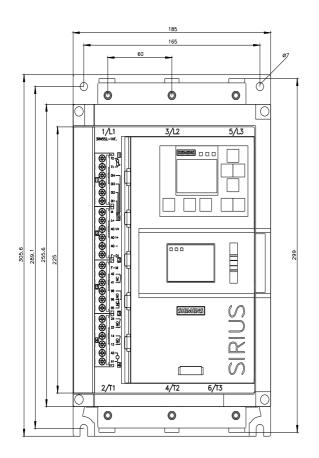
https://support.industry.siemens.com/cs/ww/en/ps/3RW5525-1HF04/char

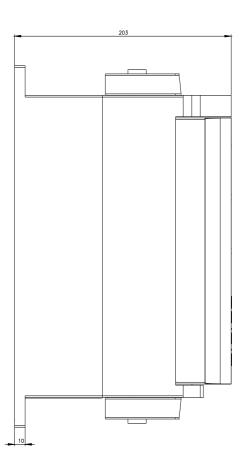
Characteristic: Installation altitude

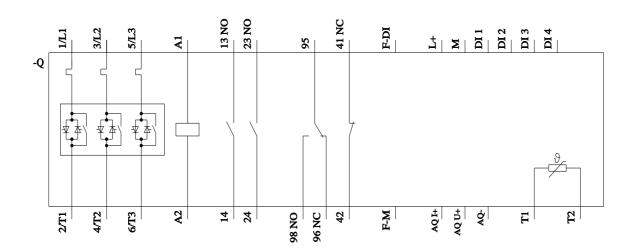
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5525-1HF04&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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