SIEMENS



Data sheet 3RW5524-1HA16



SIRIUS soft starter 200-690 V 47 A, 110-250 V AC Screw 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 	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 	3RV2032-4JA10; Type of coordination 1, Iq = 65 kA, CLASS 10		
 of circuit breaker usable at 500 V 	3RV2032-4JA10; Type of coordination 1, Iq = 10 kA, CLASS 10		
 of circuit breaker usable at 400 V at inside-delta circuit 	3RV2032-4RA10: Type of coordination 1, Iq = 65 kA, CLASS 10		
 of circuit breaker usable at 500 V at inside-delta circuit 	3RV2032-4RA10; Type of coordination 1, Iq = 10 kA, CLASS 10		
 of the gG fuse usable up to 690 V 	3NA3824-6; Type of coordination 1, Iq = 65 kA		
 of the gG fuse usable at inside-delta circuit up to 500 V 	3NA3824-6; Type of coordination 1, Iq = 65 kA		
 of full range R fuse link for semiconductor protection usable up to 690 V 	3NE1021-2; Type of coordination 2, Iq = 65 kA		
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE8024-1; Type of coordination 2, Iq = 65 kA		

and the second s			
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 according to IEC 61557-12	5 %		
certificate of suitability			

CE marking	Yes			
 UL approval 	Yes Yes Yes Yes			
CSA approval	Yes Juloutudong			
product component				
HMI-High Feature	Yes			
 is supported HMI-High Feature 	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	100 ms			
for control circuit	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 g / 17 his, from 6 g / 17 his with potential contact miling			
	60 1 800 s			
recovery time after overload trip adjustable				
utilization category according to IEC 60947-4-2	AC 53a			
reference code according to IEC 81346-2	Q 00/45/0040			
Substance Prohibitance (Date)	02/15/2018			
product function	V			
• ramp-up (soft starting)	Yes			
• ramp-down (soft stop)	Yes			
breakaway pulse	Yes			
adjustable current limitation	Yes			
creep speed in both directions of rotation	Yes			
• pump ramp down	Yes			
DC braking	Yes			
motor heating	Yes			
slave pointer function	Yes			
trace function	Yes			
 intrinsic device protection 	Yes			
 motor overload protection 	Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)			
 evaluation of thermistor motor protection 	Yes; Type A PTC or Klixon / Thermoclick			
• inside-delta circuit	Yes; Only up to 600 V operating voltage			
auto-RESET	Yes			
manual RESET	Yes			
remote reset	Yes			
 communication function 	Yes			
 operating measured value display 	Yes			
• event list	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-			
firmware update	Feature communication modules Yes			
removable terminal for control circuit	Yes			
voltage ramp	Yes			

 torque control 	Yes Yes Yes; 4 20 mA (de P) 10 Valentudong				
 combined braking 	Yes				
 analog output 	Yes; 4 20 mA (de) 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 	47 A				
 at 40 °C rated value minimum 	10 A				
 at 50 °C rated value 	41.6 A				
at 60 °C rated value	36.2 A				
operational current at inside-delta circuit					
at 40 °C rated value	81.4 A				
at 50 °C rated value	72 A				
at 60 °C rated value	62.7 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 	11 kW				
 at 230 V at inside-delta circuit at 40 °C rated value 	22 kW				
 at 400 V at 40 °C rated value 	22 kW				
 at 400 V at inside-delta circuit at 40 °C rated value 	45 kW				
 at 500 V at 40 °C rated value 	30 kW				
 at 500 V at inside-delta circuit at 40 °C rated value 	45 kW				
	45 kW				
at 690 V at 40 °C rated value					
Operating frequency 1 rated value	50 Hz				
Operating frequency 1 rated value Operating frequency 2 rated value	60 Hz				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency	60 Hz -10 %				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency	60 Hz -10 % 10 %				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%]	60 Hz -10 %				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%] power loss [W] for rated value of the current at AC	60 Hz -10 % 10 % 10 %; Relative to set le				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%] power loss [W] for rated value of the current at AC • at 40 °C after startup	60 Hz -10 % 10 % 10 %; Relative to set le				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%] power loss [W] for rated value of the current at AC • at 40 °C after startup • at 50 °C after startup	60 Hz -10 % 10 % 10 %; Relative to set le 14 W 12 W				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%] power loss [W] for rated value of the current at AC • at 40 °C after startup • at 50 °C after startup • at 60 °C after startup	60 Hz -10 % 10 % 10 %; Relative to set le				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%] power loss [W] for rated value of the current at AC	60 Hz -10 % 10 % 10 %; Relative to set le 14 W 12 W 11 W				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%] power loss [W] for rated value of the current at AC • at 40 °C after startup • at 50 °C after startup • at 60 °C after startup power loss [W] at AC at current limitation 350 % • at 40 °C during startup	60 Hz -10 % 10 % 10 %; Relative to set le 14 W 12 W 11 W				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%] power loss [W] for rated value of the current at AC • at 40 °C after startup • at 50 °C after startup power loss [W] at AC at current limitation 350 % • at 40 °C during startup • at 50 °C during startup	60 Hz -10 % 10 % 10 %; Relative to set le 14 W 12 W 11 W 588 W 504 W				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%] power loss [W] for rated value of the current at AC • at 40 °C after startup • at 50 °C after startup power loss [W] at AC at current limitation 350 % • at 40 °C during startup • at 50 °C during startup • at 60 °C during startup • at 60 °C during startup	60 Hz -10 % 10 % 10 %; Relative to set le 14 W 12 W 11 W 588 W 504 W 420 W				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%] power loss [W] for rated value of the current at AC • at 40 °C after startup • at 50 °C after startup • at 60 °C after startup power loss [W] at AC at current limitation 350 % • at 40 °C during startup • at 50 °C during startup • at 60 °C during startup • at 60 °C during startup • at 60 °C during startup	60 Hz -10 % 10 % 10 %; Relative to set le 14 W 12 W 11 W 588 W 504 W				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%] power loss [W] for rated value of the current at AC • at 40 °C after startup • at 50 °C after startup • at 60 °C after startup power loss [W] at AC at current limitation 350 % • at 40 °C during startup • at 50 °C during startup • at 60 °C during startup type of the motor protection Control circuit/ Control	60 Hz -10 % 10 % 10 %; Relative to set le 14 W 12 W 11 W 588 W 504 W 420 W Electronic, tripping in the event of thermal overload of the motor				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%] power loss [W] for rated value of the current at AC • at 40 °C after startup • at 50 °C after startup • at 60 °C after startup power loss [W] at AC at current limitation 350 % • at 40 °C during startup • at 50 °C during startup • at 60 °C during startup type of the motor protection Control circuit/ Control type of voltage of the control supply voltage	60 Hz -10 % 10 % 10 %; Relative to set le 14 W 12 W 11 W 588 W 504 W 420 W				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%] power loss [W] for rated value of the current at AC • at 40 °C after startup • at 50 °C after startup • at 60 °C after startup power loss [W] at AC at current limitation 350 % • at 40 °C during startup • at 50 °C during startup • at 60 °C during startup type of the motor protection Control circuit/ Control type of voltage of the control supply voltage control supply voltage at AC	60 Hz -10 % 10 % 10 %; Relative to set le 14 W 12 W 11 W 588 W 504 W 420 W Electronic, tripping in the event of thermal overload of the motor				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%] power loss [W] for rated value of the current at AC • at 40 °C after startup • at 50 °C after startup power loss [W] at AC at current limitation 350 % • at 40 °C during startup • at 50 °C during startup • at 60 °C during startup type of the motor protection Control circuit/ Control type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz	60 Hz -10 % 10 % 10 %; Relative to set le 14 W 12 W 11 W 588 W 504 W 420 W Electronic, tripping in the event of thermal overload of the motor				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%] power loss [W] for rated value of the current at AC • at 40 °C after startup • at 50 °C after startup • at 60 °C after startup power loss [W] at AC at current limitation 350 % • at 40 °C during startup • at 50 °C during startup • at 60 °C during startup type of the motor protection Control circuit/ Control type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz • at 60 Hz relative negative tolerance of the control supply	60 Hz -10 % 10 % 10 %; Relative to set le 14 W 12 W 11 W 588 W 504 W 420 W Electronic, tripping in the event of thermal overload of the motor				
Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%] power loss [W] for rated value of the current at AC • at 40 °C after startup • at 50 °C after startup • at 60 °C after startup power loss [W] at AC at current limitation 350 % • at 40 °C during startup • at 50 °C during startup • at 60 °C during startup type of the motor protection Control circuit/ Control type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz • at 60 Hz	60 Hz -10 % 10 % 10 %; Relative to set le 14 W 12 W 11 W 588 W 504 W 420 W Electronic, tripping in the event of thermal overload of the motor AC 110 250 V 110 250 V				

relative negative tolerance of the control supply voltage at AC at 60 Hz	objective of the state of the s			
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	180 mA			
locked-rotor current at close of bypass contact maximum	0.8 A			
inrush current peak at application of control supply voltage maximum	43 A			
duration of inrush current peak at application of control supply voltage	1.6 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			
idotoimig moniod				
height				
height	306 mm			
width	306 mm 185 mm			
width depth	306 mm			
width depth required spacing with side-by-side mounting	306 mm 185 mm 203 mm			
width depth required spacing with side-by-side mounting • forwards	306 mm 185 mm 203 mm			
width depth required spacing with side-by-side mounting • forwards • backwards	306 mm 185 mm 203 mm 10 mm 0 mm			
width depth required spacing with side-by-side mounting	306 mm 185 mm 203 mm 10 mm 0 mm 100 mm			
width depth required spacing with side-by-side mounting	306 mm 185 mm 203 mm 10 mm 0 mm 100 mm 75 mm			
width depth required spacing with side-by-side mounting	306 mm 185 mm 203 mm 10 mm 0 mm 100 mm 75 mm 5 mm			
width depth required spacing with side-by-side mounting	306 mm 185 mm 203 mm 10 mm 0 mm 100 mm 75 mm			
width depth required spacing with side-by-side mounting	306 mm 185 mm 203 mm 10 mm 0 mm 100 mm 75 mm 5 mm			
width depth required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • at the side weight without packaging Connections/ Terminals type of electrical connection	306 mm 185 mm 203 mm 10 mm 0 mm 100 mm 75 mm 5 mm 5.5 kg			
width depth required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • at the side weight without packaging Connections/ Terminals type of electrical connection • for main current circuit	306 mm 185 mm 203 mm 10 mm 0 mm 100 mm 75 mm 5 mm 5.5 kg			
width depth required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • at the side weight without packaging Connections/ Terminals type of electrical connection • for main current circuit • for control circuit	306 mm 185 mm 203 mm 10 mm 0 mm 100 mm 75 mm 5 mm 5.5 kg box terminal screw-type terminals			
width depth required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • at the side weight without packaging Connections/ Terminals type of electrical connection • for main current circuit • for control circuit width of connection bar maximum	306 mm 185 mm 203 mm 10 mm 0 mm 100 mm 75 mm 5 mm 5.5 kg			
width depth required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • at the side weight without packaging Connections/ Terminals type of electrical connection • for main current circuit • for control circuit width of connection bar maximum wire length for thermistor connection	306 mm 185 mm 203 mm 10 mm 0 mm 100 mm 75 mm 5 mm 5.5 kg box terminal screw-type terminals 25 mm			
width depth required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • at the side weight without packaging Connections/ Terminals type of electrical connection • for main current circuit • for control circuit width of connection bar maximum wire length for thermistor connection • with conductor cross-section = 0.5 mm² maximum	306 mm 185 mm 203 mm 10 mm 0 mm 100 mm 75 mm 5 mm 5.5 kg box terminal screw-type terminals 25 mm 50 m			
width depth required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • at the side weight without packaging Connections/ Terminals type of electrical connection • for main current circuit • for control circuit width of connection bar maximum wire length for thermistor connection • with conductor cross-section = 0.5 mm² maximum • with conductor cross-section = 1.5 mm² maximum	306 mm 185 mm 203 mm 10 mm 0 mm 100 mm 75 mm 5 mm 5.5 kg box terminal screw-type terminals 25 mm 50 m 150 m			
width depth required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • at the side weight without packaging Connections/ Terminals type of electrical connection • for main current circuit • for control circuit width of connection bar maximum wire length for thermistor connection • with conductor cross-section = 0.5 mm² maximum • with conductor cross-section = 1.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum	306 mm 185 mm 203 mm 10 mm 0 mm 100 mm 75 mm 5 mm 5.5 kg box terminal screw-type terminals 25 mm 50 m			
width depth required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • at the side weight without packaging Connections/ Terminals type of electrical connection • for main current circuit • for control circuit width of connection bar maximum wire length for thermistor connection • with conductor cross-section = 0.5 mm² maximum • with conductor cross-section = 1.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum • with conductor cross-sections • for main contacts for box terminal using the front	306 mm 185 mm 203 mm 10 mm 0 mm 100 mm 75 mm 5 mm 5.5 kg box terminal screw-type terminals 25 mm 50 m 150 m			
width depth required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • at the side weight without packaging Connections/ Terminals type of electrical connection • for main current circuit • for control circuit width of connection bar maximum wire length for thermistor connection • with conductor cross-section = 0.5 mm² maximum • with conductor cross-section = 1.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum	306 mm 185 mm 203 mm 10 mm 0 mm 100 mm 75 mm 5 mm 5 mm 5.5 kg box terminal screw-type terminals 25 mm 50 m 150 m 250 m			
width depth required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • at the side weight without packaging Connections/ Terminals type of electrical connection • for main current circuit • for control circuit width of connection bar maximum wire length for thermistor connection • with conductor cross-section = 0.5 mm² maximum • with conductor cross-section = 1.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum type of connectable conductor cross-sections • for main contacts for box terminal using the front clamping point solid • for main contacts for box terminal using the front clamping point finely stranded with core end	306 mm 185 mm 203 mm 10 mm 0 mm 100 mm 75 mm 5 mm 5.5 kg box terminal screw-type terminals 25 mm 50 m 150 m 250 m 1x (2.5 16 mm²)			

using the front clamping point	dientudena		
 for main contacts for box terminal using the back clamping point solid 	1x (2.5 16 mm²) dientudong		
 at AWG cables for main contacts for box terminal using the back clamping point 	1x (10 2/0)		
 for main contacts for box terminal using both clamping points solid 	2x (2.5 16 mm²)		
 for main contacts for box terminal using both clamping points finely stranded with core end processing 	2x (2.5 35 mm²)		
 for main contacts for box terminal using both clamping points stranded 	2x (6 16 mm²), 2x (10 50 mm²)		
 for main contacts for box terminal using the back clamping point finely stranded with core end processing 	1x (2.5 50 mm²)		
for main contacts for box terminal using the back clamping point stranded	1x (10 70 mm²)		
type of connectable conductor cross-sections			
 for control circuit solid 	1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)		
 for control circuit finely stranded with core end processing 	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)		
 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 DC maximum 	1 000 m		
tightening torque			
 for main contacts with screw-type terminals 	4.5 6 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 	40 53 lbf·in		
 for auxiliary and control contacts with screw-type terminals 	7 10.3 lbf·in		
Ambient conditions			
	2 000 m; Derating as of 1000 m, see catalog		
Ambient conditions	2 000 m; Derating as of 1000 m, see catalog		
Ambient conditions installation altitude at height above sea level maximum	2 000 m; Derating as of 1000 m, see catalog -25 +60 °C; Please observe derating at temperatures of 40 °C or above		
Ambient conditions installation altitude at height above sea level maximum ambient temperature	-25 +60 °C; Please observe derating at temperatures of 40 °C or		
Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation	-25 +60 °C; Please observe derating at temperatures of 40 °C or above		
Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage and transport	-25 +60 °C; Please observe derating at temperatures of 40 °C or above		
Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage and transport environmental category	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 3K6 (no ice formation, only occasional condensation), 3C3 (no salt		
Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage and transport environmental category • during operation according to IEC 60721	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 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		
Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage and transport environmental category • during operation according to IEC 60721 • during storage according to IEC 60721	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 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		
Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage and transport environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 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)		
Ambient conditions installation altitude at height above sea level maximum ambient temperature	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 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)		
Ambient conditions installation altitude at height above sea level maximum ambient temperature	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 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)		
Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage and transport environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 EMC emitted interference Communication/ Protocol communication module is supported	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 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, Class B on request		
Ambient conditions installation altitude at height above sea level maximum ambient temperature	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 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, Class B on request		
installation altitude at height above sea level maximum ambient temperature	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 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, Class B on request Yes Yes		
installation altitude at height above sea level maximum ambient temperature	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 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, Class B on request Yes Yes Yes		
Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage and transport environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 EMC emitted interference Communication/ Protocol communication module is supported • PROFINET standard • PROFINET high-feature • EtherNet/IP • Modbus RTU	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 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, Class B on request Yes Yes Yes Yes		
installation altitude at height above sea level maximum ambient temperature • during operation • during storage and transport environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 EMC emitted interference Communication/ Protocol communication module is supported • PROFINET standard • PROFINET high-feature • EtherNet/IP • Modbus RTU • Modbus TCP	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 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, Class B on request Yes Yes Yes Yes Yes		
Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage and transport environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 EMC emitted interference Communication/ Protocol communication module is supported • PROFINET standard • PROFINET high-feature • EtherNet/IP • Modbus RTU • Modbus TCP • PROFIBUS	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 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, Class B on request Yes Yes Yes Yes Yes		
installation altitude at height above sea level maximum ambient temperature • during operation • during storage and transport environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 EMC emitted interference Communication/ Protocol communication module is supported • PROFINET standard • PROFINET high-feature • EtherNet/IP • Modbus RTU • Modbus TCP • PROFIBUS UL/CSA ratings	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 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, Class B on request Yes Yes Yes Yes Yes		
installation altitude at height above sea level maximum ambient temperature • during operation • during storage and transport environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 EMC emitted interference Communication/ Protocol communication module is supported • PROFINET standard • PROFINET high-feature • EtherNet/IP • Modbus RTU • Modbus TCP • PROFIBUS UL/CSA ratings manufacturer's article number	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 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, Class B on request Yes Yes Yes Yes Yes		
installation altitude at height above sea level maximum ambient temperature • during operation • during storage and transport environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 EMC emitted interference Communication/ Protocol communication module is supported • PROFINET standard • PROFINET high-feature • EtherNet/IP • Modbus RTU • Modbus TCP • PROFIBUS UL/CSA ratings manufacturer's article number • of circuit breaker — usable for Standard Faults at 460/480 V	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 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, Class B on request Yes Yes Yes Yes Yes Yes		
Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage and transport environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 EMC emitted interference Communication/ Protocol communication module is supported • PROFINET standard • PROFINET standard • PROFINET high-feature • EtherNet/IP • Modbus RTU • Modbus RTU • Modbus TCP • PROFIBUS UL/CSA ratings manufacturer's article number • of circuit breaker — usable for Standard Faults at 460/480 V according to UL — usable for High Faults at 460/480 V according	-25 +60 °C; Please observe derating at temperatures of 40 °C or above -40 +80 °C 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, Class B on request Yes Yes Yes Yes Yes Yes Yes Yes Yes		

delta circuit according to UL usable for Standard Faults at 575/600 V Siemens type: 3R\ according to UL - usable for High Faults at 575/600 V at inside-Siemens type: 3VA5 delta circuit according to UL - usable for Standard Faults at 575/600 V at Siemens type: 3VA51, max. 90 A; Iq = 5 kA inside-delta circuit according to UL usable for Standard Faults up to 575/600 V Type: Class RK5 / K5, max. 175 A; Iq = 5 kA according to UL usable for High Faults up to 575/600 V Type: Class J / L, max. 175 A; Iq = 100 kA according to UL - usable for Standard Faults at inside-delta Type: Class RK5 / K5, max. 175 A; Iq = 5 kA circuit up to 575/600 V according to UL - usable for High Faults at inside-delta circuit up Type: Class J / L, max. 175 A; Iq = 100 kA to 575/600 V according to UL operating power [hp] for 3-phase motors • at 200/208 V at 50 °C rated value 10 hp • at 220/230 V at 50 °C rated value 10 hp at 460/480 V at 50 °C rated value 30 hp • at 575/600 V at 50 °C rated value 40 hp • at 200/208 V at inside-delta circuit at 50 °C rated 20 hp • at 220/230 V at inside-delta circuit at 50 °C rated 25 hp • at 460/480 V at inside-delta circuit at 50 °C rated 50 hp value • at 575/600 V at inside-delta circuit at 50 °C rated 60 hp value contact rating of auxiliary contacts according to UL R300-B300 Safety related data IP00; IP20 with cover protection class IP on the front according to IEC 60529 finger-safe, for vertical contact from the front with cover touch protection on the front according to IEC 60529 electromagnetic compatibility acc. to IEC 60947-4-2 **ATEX** certificate of suitability ATEX Yes IECEx Yes BVS 18 ATEX F 003 X according to ATEX directive 2014/34/EU type of protection according to ATEX directive II (2)G [Ex eb Gb] [Ex db Gb] [Ex pxb Gb], II (2)D [Ex tb Db] [Ex pxb Db], 2014/34/EU I (M2) [Ex db Mb] hardware fault tolerance according to IEC 61508 relating to ATEX PFDavg with low demand rate according to IEC 61508 0.008 relating to ATEX 5E-7 1/h PFHD with high demand rate according to EN 62061 relating to ATEX Safety Integrity Level (SIL) according to IEC 61508 SIL₁ relating to ATEX T1 value for proof test interval or service life 3 s according to IEC 61508 relating to ATEX



Certificates/ approvals

General Product Approval



Confirmation







For use in hazardous locations	Declaration of Conformity	Test Certificates	Marine / Shipping

EMC









Marine / Shipping

other





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=3RW5524-1HA16

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5524-1HA16

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5524-1HA16

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5524-1HA16&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

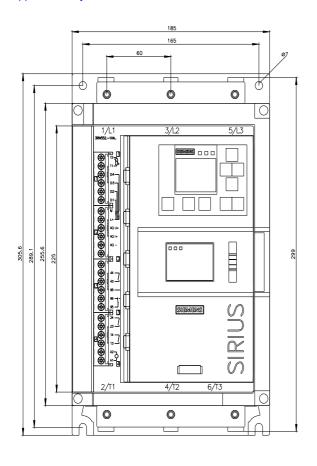
https://support.industry.siemens.com/cs/ww/en/ps/3RW5524-1HA16/char

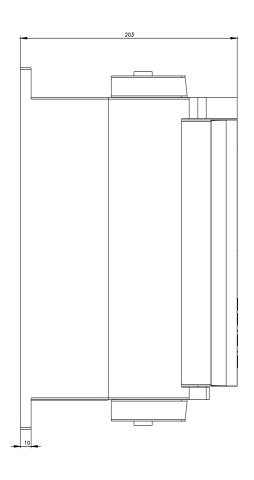
Characteristic: Installation altitude

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5524-1HA16&objecttype=14&gridview=view1

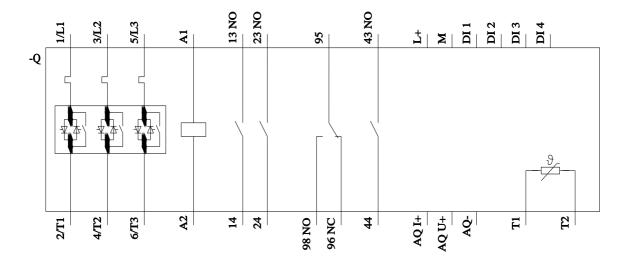
Simulation Tool for Soft Starters (STS)

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









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