SIEMENS



Data sheet 3RW5544-2HF04



SIRIUS soft starter 200-480 V 250 A, 24 V AC/DC spring-type terminals Fail-safe

Figure similar

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 	3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V 	3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 400 V at inside-delta circuit 	3VA2450-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V at inside-delta circuit 	3VA2450-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of the gG fuse usable up to 690 V 	2x3NA3354-6; Type of coordination 1, Iq = 65 kA
 of the gG fuse usable at inside-delta circuit up to 500 V 	2x3NA3354-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	3NE1331-0; Type of coordination 2, Iq = 65 kA
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE3335; Type of coordination 2, Iq = 65 kA
 of the redundant contactor for applications > SIL 1 according to EN 62061 	<u>3RT1075</u>
 of the redundant contactor for applications > SIL 1 at inside-delta circuit according to EN 62061 	<u>3RT1075</u>
 of the redundant contactor for applications > SIL 1 according to EN ISO 13849-1 	<u>3RT1076</u>
 of the redundant contactor for applications > SIL 1 at inside-delta circuit according to EN ISO 13849-1 	<u>3RT1076</u>
Seneral 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 [%]	10 100 % 20 200 % 125 800 %
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
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
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	480 V
degree of pollution	3, acc. to IEC 60947-4-2
impulse voltage rated value	6 kV
blocking voltage of the thyristor maximum	1 400 V
service factor	1.15
surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
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
product function	V
• ramp-up (soft starting)	Yes
• ramp-down (soft stop)	Yes
breakaway pulse adjustable current limitation	Yes
adjustable current limitation creen speed in both directions of rotation	Yes Yes
creep speed in both directions of rotationpump ramp down	Yes
	Yes
DC brakingmotor 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	motor overload protection) / When using the motor overload protection according to ATEX, an upstream contactor is required in inside-delta circuit.
 evaluation of thermistor motor protection 	Yes; Type A PTC or Klixon / Thermoclick
inside-delta circuit	Yes
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 Yes Yes
via software configurable	
screw terminal	No
spring-loaded terminal	Yes
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	250 A
 at 40 °C rated value minimum 	50 A
 at 50 °C rated value 	220 A
at 60 °C rated value	200 A
operational current at inside-delta circuit	
 at 40 °C rated value 	433 A
 at 50 °C rated value 	381 A
at 60 °C rated value	346 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 % 15 %
relative negative tolerance of the operating voltage at inside-delta circuit	
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	75 kW
• at 230 V at inside-delta circuit at 40 °C rated value	132 kW
• at 400 V at 40 °C rated value	132 kW
at 400 V at inside-delta circuit at 40 °C rated value	250 kW
Operating frequency 1 rated value	50 Hz
Operating frequency 2 rated value	60 Hz
relative negative tolerance of the operating frequency	10 % 10 %
relative positive tolerance of the operating frequency	
minimum load [%]	10 %; Relative to set le
power loss [W] for rated value of the current at AC	75 W
at 40 °C after startupat 50 °C after startup	75 W 66 W
·	60 W
• at 60 °C after startup	- OO VV
power loss [W] at AC at current limitation 350 %	3 806 W
at 40 °C during startup at 50 °C during startup	3 806 W
at 50 °C during startup at 60 °C during startup	2 787 W
at 60 °C during startup type of the motor protection	
type of the motor protection	Electronic, tripping in the event of thermal overload of the motor
Control circuit/ Control	ACIDO
type of voltage of the control supply voltage	AC/DC

control supply voltage at AC • at 60 Hz rated value • 24 V voltage at AC at 50 Hz relative positive tolerance of the control supply voltage at AC at 50 Hz relative positive tolerance of the control supply voltage at AC at 50 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage for the voltage frequency relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz voltage at 60 Hz volta		
relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage frequency at 60 Hz relative positive tolerance of the control supply voltage frequency relative positive tolerance of the control supply voltage frequency at 60 Hz relative positive tolerance of the control supply voltage frequency at 60 Hz relative positive tolerance of the control supply voltage frequency at 60 Hz relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage and toleration of inrush current peak at application of control supply voltage maximum Insulative positive tolerance of the control size of the control supply voltage and the covervoltage protection of supply voltage and the cove	control supply voltage at AC	all and und an a
relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage at AC at 60 Hz relative positive tolerance of the control supply voltage frequency at 60 Hz relative positive tolerance of the control supply voltage frequency relative positive tolerance of the control supply voltage frequency at 60 Hz relative positive tolerance of the control supply voltage frequency at 60 Hz relative positive tolerance of the control supply voltage frequency at 60 Hz relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage and toleration of inrush current peak at application of control supply voltage maximum Insulative positive tolerance of the control size of the control supply voltage and the covervoltage protection of supply voltage and the cove	 at 50 Hz rated value 	24 V
relative positive tolerance of the control supply voltage at AC at 50 Hz relative negative tolerance of the control supply voltage at AC at 60 Hz relative negative tolerance of the control supply voltage at AC at 60 Hz relative negative tolerance of the control supply voltage frequency	 at 60 Hz rated value 	24 V
voltage at AC at 50 Hz relative negative tolerance of the control supply voltage at AC at 50 Hz relative positive tolerance of the control supply voltage frequency relative positive tolerance of the control supply voltage frequency relative positive tolerance of the control supply voltage frequency relative positive tolerance of the control supply voltage frequency relative positive tolerance of the control supply voltage fred value at IC and value at IC and value relative negative tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative positive tolerance of the control supply voltage at CC relative pos		
relative positive tolerance of the control supply voltage at AC at 60 Hz relative negative tolerance of the control supply voltage frequency relative negative tolerance of the control supply voltage frequency relative positive tolerance of the control supply voltage eat CC attack value • at CC rated value • at CC rated value • at CC rated value control supply voltage • at CC rated value • at CC rated value control supply current in standby mode rated value holding current in bypass operation rated value holding current pass at application of control supply voltage maximum holding current pask at application of control supply voltage maximum duration of inrush current peak at application of control supply voltage maximum duration of inrush current peak at application of control supply voltage maximum design of short-circuit protection for control circuit design of short-circuit protection for control circuit financis current pask at application of control supply voltage maximum umber of digital inputs • with fail-safe • number of digital outputs with fail-safe • number of digital outputs with fail-safe • number of digital outputs parameterizable • number of digital outputs with fail-safe • number of digital outputs wit		20 %
voltage at AC at 50 Hz control supply voltage frequency relative negative tolerance of the control supply voltage frequency relative positive tolerance of the control supply voltage frequency at DC rated value at DC rated value at DC rated value at DC rated value bolding current in standby mode rated value bolding current in standby mode rated value bolding current in bypass operation rated value bolding current in standby mode rated value bolding current peak at application of control supply voltage maximum insulation of insula current peak at application of control supply voltage maximum duration of insula current peak at application of control supply voltage maximum design of short-circuit protection for control circuit design of short-circuit protection for control circuit reputs Outputs number of digital inputs • with fall-safe • parameterizable • number of digital outputs with fall-safe • number of digital outputs with fall-safe • number of digital outputs parameterizable • number of digital outputs with rail-safe • number of digital outputs parameterizable • number of digital outputs with rail-safe • numbe		-20 %
relative negative tolerance of the control supply voltage (requency) relative positive tolerance of the control supply voltage		20 %
relative positive tolerance of the control supply voltage frequency control supply voltage • at DC rated value • at DC rated value relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC control supply current in standby mode rated value control supply current at close of bypass contact maximum inrush current peak at application of control supply voltage maximum duration of inrush current peak at application of control supply voltage design of the overvoltage protection design of short-circuit protection for control circuit supply voltage design of the overvoltage protection design of short-circuit protection for control circuit supply voltage **Number of digital inputs** **unith lait-safe** **number of digital outputs** **number of digital outputs with fail-safe **number of digital outputs parameterizable **number of digital outputs **at AC-15 at 250 V rated value **at AC-16 at 250 V rated value **at DC-13 at 24 V rated	control supply voltage frequency	50 60 Hz
relative positive tolerance of the control supply voltage of the control circuit of the control		-10 %
e at DC rated value relative negative tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC control supply current in standby mode rated value Locked-rotor current at close of bypass contact maximum linush current peak at application of control supply voltage maximum linush current peak at application of control supply voltage maximum linush current peak at application of control supply voltage maximum linush current peak at application of control supply voltage maximum lesign of the overvoltage protection lesign of short-circuit protection for control circuit supply voltage lesign of short-circuit protection for control circuit relative to the supply linutes of ligital inputs with fall-safe parameterizable number of digital outputs with fall-safe number of digital outputs with fall-safe number of digital outputs with fall-safe number of digital outputs not parameterizable number of digital outputs not parameterizable number of digital outputs not parameterizable number of adigital outputs at AC-15 at 250 V rated value at AC-15 at 250 V rated value at AC-15 at 250 V rated value at AC-16 at 250 V rated value at AC-16 at 250 V rated value at CP-4 delay time with safe-yelated request when switched off via control inputs maximum installation/ mounting/ dimensions mounting position vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) fastening method screw fixing soft maximum lon mm shackwards lon mm l	relative positive tolerance of the control supply	10 %
relative positive tolerance of the control supply voltage at DC control supply current in standby mode rated value holding current in bypass operation rated value locked-rotor current at close of bypass contact maximum inush current peak at application of control supply voltage maximum duration of innush current peak at application of control supply voltage design of the overvoltage protection design of short-circuit protection for control circuit Inputs/ Outputs number of digital inputs • with fall-safe • number of digital outputs with fall-safe • number of digital outputs parameterizable • number of digital outputs not parameterizable digital output version number of analog outputs ** **With Call-safe version supply-open contacts (NO) / 1 normally-closed contact (NC) / 1 changeover contact (CO) ** ** ** ** ** ** ** ** **		24 V
relative positive tolerance of the control supply voltage at DC control supply current in standby mode rated value holding current in bypass operation rated value (A720 mA locked-rotor current at close of bypass contact maximum Insus current peak at application of control supply voltage maximum 7.5 A 7.5 A 7.5 A 20 ms 4 A GG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu=800 A), C6 miniature circuit breaker (Icu=300 A), Is not part of digital inputs • with fail-safe • parameterizable • number of digital outputs with fail-safe • number of digital outputs with fail-safe • number of digital outputs parameterizable • number of digital outputs not parameterizable • number of digital outputs on parameterizable • number of analog outputs switching capacity current of the relay outputs • at AC-15 at 250 V rated value • at AC-15 at 250 V rated value • at AC-15 at 250 V rated value OFF-delay time with safety-related request when switched for satening method height control inputs maximum Instalation mounting/ dimensions mounting position fastening method height • forwards • downwards • 20 ms 440 mA 440 mA 440 mA 440 mA 472 mA 48 G fue 67. A A g G fue 48 Gr Ka 49 Gu fue 49 Gr Wa fue 49 Gr Wa fue 40 mA 4	relative negative tolerance of the control supply	
control supply current in standby mode rated value holding current in bypass operation rated value (20 mA) locked-rotor current at close of bypass contact maximum inrush current peak at application of control supply voltage maximum duration of inrush current peak at application of control supply voltage design of the overvoltage protection (20 mS) design of short-circuit protection for control circuit (20 mS) Inputs/ Outputs Inputs/ Outputs number of digital inputs (3 ms) • with fail-safe (4 ms) • number of digital outputs with fail-safe (5 ms) • number of digital outputs with fail-safe (5 ms) • number of digital outputs parameterizable (4 ms) • number of digital outputs parameterizable (5 ms) • number of digital outputs parameterizable (5 ms) • number of analog outputs parameterizable (5 ms) • number of analog outputs (5 ms) • at AC-15 at 250 V rated value (7 ms) • at AC-15 at 250 V rated value (7 ms) • at AC-15 at 250 V rated value (7 ms) * at AC-15 at 250 V rated value	relative positive tolerance of the control supply	20 %
Nolding current in bypass operation rated value Iocked-rotor current at close of bypass contact maximum Installation of inrush current peak at application of control supply voltage maximum Installation of inrush current peak at application of control supply voltage Installation of inrush current peak at application of control supply voltage Installation of the overvoltage protection Varistor Varisto		440 mA
locked-rotor current at close of bypass contact maximum finish current peak at application of control supply voltage maximum finish current peak at application of control supply voltage duration of inrush current peak at application of control supply voltage design of the overvoltage protection design of short-circuit protection for control circuit day GG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu=800 A), C6 miniature circuit breaker (Icu=800 A), C6 miniature circuit breaker (Icu=800 A), C8 miniature circuit breake		
maximum 20 ms duration of inrush current peak at application of control supply voltage 20 ms design of the overvoltage protection Varistor 4 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu= 800 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply Inputs/ Outputs 4 number of digital inputs 4 • with fail-safe 1 • number of digital outputs 3 • Number of digital outputs with fail-safe 1 • number of digital outputs parameterizable 2 • number of digital outputs parameterizable 2 • number of analog outputs of 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 3 A • at AC-15 at 250 V rated value 3 A • at C-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 Vertical (can be rotated +/- 90° and tilted forward	locked-rotor current at close of bypass contact	
design of the overvoltage protection design of short-circuit protection for control circuit inputs/ Outputs number of digital inputs • with fail-safe • parameterizable • number of digital outputs with fail-safe • number of digital outputs parameterizable • number of digital outputs parameterizable • number of digital outputs not parameterizable • number of digital outputs not parameterizable • number of analog outputs witching capacity current of the relay outputs • at AC-15 at 250 V rated value • at DC-13 at 24 V rated value OFF-delay time with safety-related request when switched off via control inputs maximum Installation/ mounting/ dimensions mounting position fastening method height vidth depth • forwards • forwards • forwards • forwards • oupwards • downwards • downwards • downwards 75 mm		7.5 A
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= 800 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply Inputs/ Outputs		20 ms
inputs/ Outputs number of digital inputs with fall-safe parameterizable number of digital outputs number of digital outputs with fail-safe number of digital outputs parameterizable number of digital outputs parameterizable number of digital outputs not parameterizable number of analog outputs at AC-15 at 250 V rated value 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 Installation/ mounting/ dimensions mounting position fastening method height yerical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) fastening method height 203 mm required spacing with side-by-side mounting forwards backwards upwards downwards 75 mm	design of the overvoltage protection	Varistor
Inputs/ Outputs number of digital inputs • with fail-safe • parameterizable • number of digital outputs • Number of digital outputs with fail-safe • number of digital outputs with fail-safe • number of digital outputs parameterizable digital output version 1 2 normally-open contacts (NO) / 1 normally-closed contact (NC) / 1 changeover contact (CO) number of analog outputs • at AC-15 at 250 V rated value • at DC-13 at 24 V rated value • 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 Installation/ mounting/ dimensions mounting position fastening method height 393 mm vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) fastening method height 200 mm epuired spacing with side-by-side mounting • forwards • backwards • upwards • downwards 75 mm		circuit breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= 300 A); Is
number of digital inputs with fail-safe parameterizable number of digital outputs Number of digital outputs Number of digital outputs Number of digital outputs arameterizable number of digital outputs parameterizable number of digital outputs parameterizable number of digital outputs parameterizable number of digital outputs not parameterizable lidigital output version number of analog outputs number of analog outputs at AC-15 at 250 V rated value AC-15 at 250 V rated value AC-15 at 250 V rated value AC-15 at 24 V rated value AC-16 at 24 V rated value AC-17 at 25 V rated value AC-18 at 250 V rated value AC-19 at 24 V rated value AC-19 at 25 V rated value A	Inputs/ Outputs	то ран от отруч
with fail-safe parameterizable number of digital outputs Number of digital outputs with fail-safe number of digital outputs with fail-safe number of digital outputs parameterizable number of digital outputs not parameterizable number of digital outputs not parameterizable digital output version	number of digital inputs	4
number of digital outputs Number of digital outputs with fail-safe number of digital outputs with fail-safe number of digital outputs parameterizable number of digital outputs not parameterizable number of digital outputs not parameterizable 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 Installation/ mounting/ dimensions mounting position fastening method height 393 mm width 210 mm depth required spacing with side-by-side mounting forwards backwards upwards upwards downwards		1
Number of digital outputs with fail-safe number of digital outputs parameterizable number of digital outputs not parameterizable digital output version changeover contact (NO) / 1 normally-closed contact (NC) / 1 changeover contact (CO) number of analog outputs switching capacity current of the relay outputs at AC-15 at 250 V rated value at AC-15 at 250 V rated value TA Response times OFF-delay time with safety-related request when switched off via control inputs maximum Installation/ mounting/ dimensions mounting position fastening method height width 210 mm depth required spacing with side-by-side mounting forwards backwards Omm omm omm omm omm omm omm om	parameterizable	4
Number of digital outputs with fail-safe number of digital outputs parameterizable number of digital outputs not parameterizable digital output version changeover contact (NO) / 1 normally-closed contact (NC) / 1 changeover contact (CO) number of analog outputs switching capacity current of the relay outputs at AC-15 at 250 V rated value at AC-15 at 250 V rated value TA Response times OFF-delay time with safety-related request when switched off via control inputs maximum Installation/ mounting/ dimensions mounting position fastening method height width 210 mm depth required spacing with side-by-side mounting forwards backwards Omm omm omm omm omm omm omm om	number of digital outputs	3
• number of digital outputs parameterizable • number of digital outputs not parameterizable digital output version number of analog outputs switching capacity current of the relay outputs • at AC-15 at 250 V rated value • at DC-13 at 24 V rated value OFF-delay time with safety-related request when switched off via control inputs maximum Installation/ mounting/ dimensions mounting position fastening method height width 210 mm depth required spacing with side-by-side mounting • forwards • backwards • downwards 100 mm		
number of digital outputs not parameterizable digital output version 2 normally-open contacts (NO) / 1 normally-closed contact (NC) / 1 changeover contact (CO) number of analog outputs switching capacity current of the relay outputs • at AC-15 at 250 V rated value • at DC-13 at 24 V rated value OFF-delay time with safety-related request when switched off via control inputs maximum Installation/ mounting/ dimensions mounting position fastening method height 393 mm width depth required spacing with side-by-side mounting • forwards • backwards • upwards • downwards 100 mm 2 normally-open contacts (NO) / 1 normally-closed contact (NC) / 1 changeover contact (NC) / 1 normally-closed contact (NC)		
digital output version 2 normally-open contacts (NO) / 1 normally-closed contact (NC) / 1 changeover contact (CO) number of analog outputs switching capacity current of the relay outputs • at AC-15 at 250 V rated value • 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 Installation/ mounting/ dimensions mounting position fastening method height 393 mm width 210 mm depth 203 mm required spacing with side-by-side mounting • forwards • backwards • upwards • downwards 75 mm		
number of analog outputs switching capacity current of the relay outputs • at AC-15 at 250 V rated value • 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 Installation/ mounting/ dimensions mounting position Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) fastening method height 393 mm width 210 mm depth required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • downwards • downwards • downwards 10 mm 75 mm		2 normally-open contacts (NO) / 1 normally-closed contact (NC) / 1
switching capacity current of the relay outputs • at AC-15 at 250 V rated value • at DC-13 at 24 V rated value OFF-delay time with safety-related request when switched off via control inputs maximum Installation/ mounting/ dimensions mounting position Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) fastening method height 393 mm width 210 mm depth required spacing with side-by-side mounting • forwards • backwards • upwards • downwards • downwards 75 mm	number of analog outputs	
at AC-15 at 250 V rated value 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 Installation/ mounting/ dimensions mounting position Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) fastening method screw fixing height 393 mm width 210 mm depth required spacing with side-by-side mounting forwards backwards backwards upwards downwards 100 mm 6 downwards 75 mm		
● 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 Installation/ mounting/ dimensions mounting position Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) fastening method screw fixing height 393 mm width 210 mm depth 203 mm required spacing with side-by-side mounting ● forwards ● backwards ● backwards ● upwards ● downwards 100 mm 75 mm		3 A
Response times OFF-delay time with safety-related request when switched off via control inputs maximum Installation/ mounting/ dimensions mounting position fastening method screw fixing height 393 mm width 210 mm depth 203 mm required spacing with side-by-side mounting • forwards • backwards • upwards • downwards 100 ms 100 ms 100 ms 100 ms 100 ms 100 mm 100 mm 75 mm		
OFF-delay time with safety-related request when switched off via control inputs maximum Installation/ mounting/ dimensions mounting position fastening method screw fixing height 393 mm width 210 mm depth 203 mm required spacing with side-by-side mounting • forwards • backwards • upwards • downwards 100 ms 100 ms 100 ms 100 ms 100 ms		
Installation/ mounting/ dimensions mounting position Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) fastening method screw fixing height 393 mm width 210 mm depth 203 mm required spacing with side-by-side mounting • forwards • backwards • upwards • downwards 100 mm 75 mm	OFF-delay time with safety-related request when switched	100 ms
mounting position Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) fastening method screw fixing height 393 mm width 210 mm depth 203 mm required spacing with side-by-side mounting 10 mm • forwards 0 mm • backwards 0 mm • upwards 100 mm • downwards 75 mm	·	
fastening methodscrew fixingheight393 mmwidth210 mmdepth203 mmrequired spacing with side-by-side mounting10 mm• forwards0 mm• backwards0 mm• upwards100 mm• downwards75 mm		Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22 5°)
height393 mmwidth210 mmdepth203 mmrequired spacing with side-by-side mounting10 mm• forwards0 mm• backwards0 mm• upwards100 mm• downwards75 mm		
width 210 mm depth 203 mm required spacing with side-by-side mounting 10 mm • forwards 0 mm • backwards 0 mm • upwards 100 mm • downwards 75 mm		Š
depth203 mmrequired spacing with side-by-side mounting10 mm• forwards0 mm• backwards0 mm• upwards100 mm• downwards75 mm		
required spacing with side-by-side mounting • forwards • backwards • upwards • downwards 10 mm 100 mm 100 mm		
 forwards backwards upwards downwards 10 mm 100 mm 75 mm 		
 backwards upwards downwards 0 mm 100 mm 75 mm 		10 mm
 upwards downwards 100 mm 75 mm 		
• downwards 75 mm		
	~p	
	• downwards	75 mm

weight without packaging	10.2 kg
Connections/ Terminals	10.2 kg
	- /ultiluuulu
type of electrical connection	husbar connection
for main current circuit for control circuit	busbar connection
	spring-loaded terminals
width of connection bar maximum	45 mm
wire length for thermistor connection	50 m
• with conductor cross-section = 0.5 mm² maximum	50 m
with conductor cross-section = 1.5 mm² maximum with conductor cross-section = 2.5 mm² maximum	150 m 250 m
with conductor cross-section = 2.5 mm² maximum type of connectable conductor cross-sections	250 111
· ·	2v (E0 240 mm²)
 for DIN cable lug for main contacts stranded for DIN cable lug for main contacts finely stranded 	2x (50 240 mm²) 2x (70 240 mm²)
type of connectable conductor cross-sections	ZX (70 Z40 IIIIII)
for control circuit solid	2x (0.25 1.5 mm²)
for control circuit finely stranded with core end	2x (0.25 1.5 mm²)
processing	
at AWG cables for control circuit solid	2x (24 16)
 at AWG cables for control circuit finely stranded with core end processing 	2x (24 16)
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 	14 24 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 	124 210 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	above -40 +80 °C
during storage and transport environmental category	
during storage and transport	
during storage and transport environmental category	-40 +80 °C 3K6 (no ice formation, only occasional condensation), 3C3 (no salt
• during storage and transport environmental category • during operation according to IEC 60721	-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
during storage and transport environmental category during operation according to IEC 60721 during storage according to IEC 60721	-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
during storage and transport environmental category during operation according to IEC 60721 during storage according to IEC 60721 during transport according to IEC 60721	-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)
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	-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)
during storage and transport environmental category	-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)
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	-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
during storage and transport environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport according to IEC 60721 • during transport according to IEC 60721 EMC emitted interference Communication/ Protocol communication module is supported • PROFINET standard	-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
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	-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
during storage and transport environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport 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	-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 Yes Yes Yes
• 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	-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 Yes Yes Yes Yes
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	-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 Yes Yes Yes Yes Yes
• 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	-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 Yes Yes Yes Yes Yes
• during storage and transport environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport 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	-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 Yes Yes Yes Yes Yes
• during storage and transport environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport 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	-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 Yes Yes Yes Yes Yes
• during storage and transport environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport 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	-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 Yes Yes Yes Yes Yes Yes Yes
• during storage and transport environmental category • during operation according to IEC 60721 • during storage according to IEC 60721 • during transport 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 according to UL — usable for High Faults at 460/480 V according	-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 Yes Yes Yes Yes Yes Yes Yes Ye

delta circuit according to UL	diantudana
 usable for Standard Faults at 575/600 V according to UL 	Siemens type: 3V/
 usable for High Faults at 575/600 V at inside- delta circuit according to UL 	Siemens type: 3VA5 60° A; Iq max = 65 kA
 usable for Standard Faults at 575/600 V at inside-delta circuit according to UL 	Siemens type: 3VA54, max. 600 A; Iq = 18 kA
of the fuse	
 usable for Standard Faults up to 575/600 V according to UL 	Type: Class J / L, max. 800 A; Iq = 18 kA
 usable for High Faults up to 575/600 V according to UL 	Type: Class J / L, max. 800 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. 800 A; Iq = 18 kA
 usable for High Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 800 A; Iq = 100 kA
operating power [hp] for 3-phase motors	
at 200/208 V at 50 °C rated value	60 hp
 at 220/230 V at 50 °C rated value 	75 hp
 at 460/480 V at 50 °C rated value 	150 hp
 at 200/208 V at inside-delta circuit at 50 °C rated value 	125 hp
at 220/230 V at inside-delta circuit at 50 °C rated value	150 hp
• at 460/480 V at inside-delta circuit at 50 °C rated value	300 hp
contact rating of auxiliary contacts according to UL	R300-B300
Safety related data	
safety device type according to IEC 61508-2	Type B
B10d value	147 000
Safety Integrity Level (SIL)	
• according to IEC 61508	SIL1
	SIL 1
SIL Claim Limit (subsystem) according to EN 62061	
performance level (PL) according to EN ISO 13849-1	C
category according to EN ISO 13849-1	2
stop category according to EN 60204-1	0
Safe failure fraction (SFF)	60 %
average diagnostic coverage level (DCavg)	90 %
diagnostics test interval by internal test function maximum	1 000 s
PFHD with high demand rate according to EN 62061	1E-6 1/h
PFDavg with low demand rate according to IEC 61508	0.09
hardware fault tolerance according to IEC 61508	0
T1 value for proof test interval or service life according to IEC 61508	20 y
safe state	Open load circuit
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
electromagnetic compatibility	acc. to IEC 60947-4-2
ATEX	
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]
hardware fault tolerance according to IEC 61508 relating to ATEX	0
PFDavg with low demand rate according to IEC 61508 relating to ATEX	0.008
PFHD with high demand rate according to EN 62061 relating to ATEX	5E-7 1/h
Safety Integrity Level (SIL) according to IEC 61508	SIL1

relating to ATEX

T1 value for proof test interval or service life according to IEC 61508 relating to ATEX

3 s



Certificates/ approvals

General Product Approval





Confirmation







EMC

For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping









Type Test Certificates/Test Report



Marine / Shipping









Confirmation

other

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=3RW5544-2HF04

Cax online generator

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5544-2HF04

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5544-2HF04&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

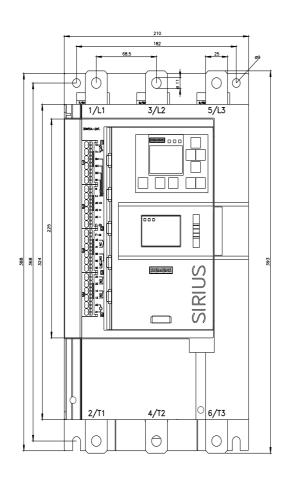
https://support.industry.siemens.com/cs/ww/en/ps/3RW5544-2HF04/char

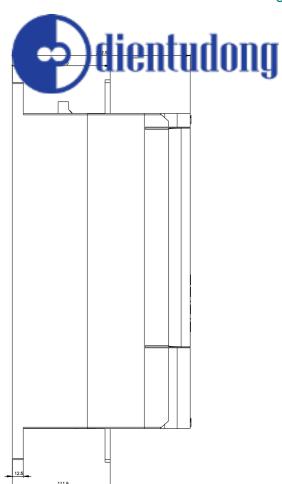
Characteristic: Installation altitude

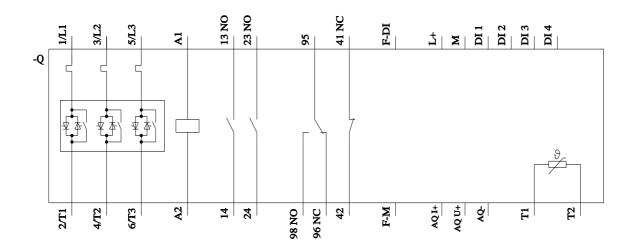
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5544-2HF04&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







Hotline: 0909000786 - lam@dientudong.com



last modified:

5/13/2022

