# **SIEMENS**

product brand name

product category

Data sheet 3RW5545-6HA04

SIRIUS

Hybrid switching devices



SIRIUS soft starter 200-480 V 315 A, 24 V AC/DC Screw terminals





	•
product designation	Soft starter
product type designation	3RW55
manufacturer's article number	
<ul> <li>of high feature HMI module usable</li> </ul>	3RW5980-0HF00
<ul> <li>of communication module PROFINET standard usable</li> </ul>	3RW5980-0CS00
<ul> <li>of communication module PROFINET high-feature usable</li> </ul>	3RW5950-0CH00
<ul> <li>of communication module PROFIBUS usable</li> </ul>	3RW5980-0CP00
<ul> <li>of communication module Modbus TCP usable</li> </ul>	3RW5980-0CT00
<ul> <li>of communication module Modbus RTU usable</li> </ul>	3RW5980-0CR00
<ul> <li>of communication module Ethernet/IP</li> </ul>	3RW5980-0CE00
<ul> <li>of circuit breaker usable at 400 V</li> </ul>	3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
<ul> <li>of circuit breaker usable at 500 V</li> </ul>	3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
<ul> <li>of circuit breaker usable at 400 V at inside-delta circuit</li> </ul>	3VA2580-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
• of circuit breaker usable at 500 V at inside-delta circuit	3VA2580-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
<ul> <li>of the gG fuse usable up to 690 V</li> </ul>	2x3NA3365-6; Type of coordination 1, Iq = 65 kA
<ul> <li>of the gG fuse usable at inside-delta circuit up to 500 V</li> </ul>	2x3NA3365-6; Type of coordination 1, Iq = 65 kA
<ul> <li>of full range R fuse link for semiconductor protection usable up to 690 V</li> </ul>	3NE1334-2; Type of coordination 2, Iq = 65 kA
<ul> <li>of back-up R fuse link for semiconductor protection usable up to 690 V</li> </ul>	3NE3336; Type of coordination 2, Iq = 65 kA
General technical data	
starting voltage [%]	20 100 %
stopping voltage [%]	50 %; non-adjustable
start-up ramp time of soft starter	0 360 s
ramp-down time of soft starter	0 360 s
start torque [%]	10 100 %
stopping torque [%]	10 100 %
torque limitation [%]	20 200 %
current limiting value [%] adjustable	125 800 %
breakaway voltage [%] adjustable	40 100 %
breakaway time adjustable	0 2 s
number of parameter sets	3
accuracy class	5 (based on IEC 61557-12)
certificate of suitability	
CE marking	Yes
UL approval	Yes

CSA approval	Yes
product component	
HMI-High Feature	Yes
is supported HMI-High Feature	Yes
product feature integrated bypass contact system	Yes
number of controlled phases	3
current unbalance limiting value [%]	10 60 %
ground-fault monitoring limiting value [%]	10 95 %
buffering time in the event of power failure	
<ul> <li>for main current circuit</li> </ul>	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 protective separation	
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
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)	02/15/2018
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 Dibutylbis(pentane-2,4-dionato-O,O')tin - 22673-19-4 Lead titanium trioxide - 12060-00-3
product function	
<ul><li>ramp-up (soft starting)</li></ul>	Yes
<ul><li>ramp-down (soft stop)</li></ul>	Yes
breakaway pulse	Yes
adjustable current limitation	Yes
<ul> <li>creep speed in both directions of rotation</li> </ul>	Yes
pump ramp down	Yes
DC braking	Yes
motor heating	Yes
min/max pointer	Yes
trace function	Yes
intrinsic device protection	Yes
motor overload protection	Yes; Full motor protection (thermistor motor protection and electronic motor overload protection) / When using the motor overload protection according to ATEX, an upstream contactor is required in inside-delta circuit.
<ul> <li>evaluation of thermistor motor protection</li> </ul>	Yes; Type A PTC or Klixon / Thermoclick
• inside-delta circuit	Yes
• auto-RESET	Yes
manual RESET	Yes
• remote reset	Yes
<ul> <li>communication function</li> </ul>	Yes
<ul> <li>operating measured value display</li> </ul>	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-Feature communication modules
• firmware update	Yes
<ul> <li>removable terminal for control circuit</li> </ul>	Yes
<ul> <li>voltage ramp</li> </ul>	Yes

• torque control	Yes
<ul> <li>combined braking</li> </ul>	Yes
analog output	Yes; 4 20 mA (default) / 0 10 V
<ul> <li>programmable control inputs/outputs</li> </ul>	Yes
<ul> <li>condition monitoring</li> </ul>	Yes
automatic parameterisation	Yes
application wizards	Yes
alternative run-down	Yes
emergency operation mode	Yes
<ul> <li>reversing operation</li> </ul>	Yes
soft starting at heavy starting conditions	Yes
Power Electronics	
operational current	
at 40 °C rated value	315 A
at 40 °C rated value minimum	63 A
at 50 °C rated value	279 A
at 60 °C rated value	255 A
operational current at inside-delta circuit	
at 40 °C rated value	546 A
at 50 °C rated value	483 A
at 60 °C rated value     at 60 °C rated value	442 A
operating voltage	
• rated value	200 480 V
at inside-delta circuit rated value	200 480 V
relative negative tolerance of the operating voltage	-15 %
relative positive tolerance of the operating voltage	10 %
relative negative tolerance of the operating voltage at	-15 %
inside-delta circuit relative positive tolerance of the operating voltage at	10 %
inside-delta circuit	
operating power for 3-phase motors	
at 230 V at 40 °C rated value	90 kW
<ul> <li>at 230 V at inside-delta circuit at 40 °C rated value</li> </ul>	160 kW
<ul> <li>at 400 V at 40 °C rated value</li> </ul>	160 kW
at 400 V at inside-delta circuit at 40 °C rated value	315 kW
Operating frequency 1 rated value	50 Hz
Operating frequency 2 rated value	60 Hz
relative negative tolerance of the operating frequency	-10 %
relative positive tolerance of the operating frequency	10 %
minimum load [%]	10 %; Relative to set le
power loss [W] for rated value of the current at AC	
at 40 °C after startup	95 W
at 50 °C after startup	84 W
at 60 °C after startup	77 W
power loss [W] at AC at current limitation 350 %	
<ul> <li>at 40 °C during startup</li> </ul>	4 966 W
<ul> <li>at 50 °C during startup</li> </ul>	4 153 W
at 60 °C during startup	3 646 W
type of the motor protection	Electronic, tripping in the event of thermal overload of the motor
Control circuit/ Control	
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
• at 50 Hz rated value	24 V
at 60 Hz rated value	24 V
relative negative tolerance of the control supply voltage at AC at 50 Hz	-20 %
relative positive tolerance of the control supply voltage at AC at 50 Hz	20 %
relative negative tolerance of the control supply voltage at AC at 60 Hz	-20 %
relative positive tolerance of the control supply voltage at	20 %
AC at 60 Hz	

control supply voltage frequency relative negative tolarance of the control supply voltage frequency relative positive tolarance of the control supply voltage trequency relative positive tolarance of the control supply voltage at DC		
frequency  * relative positive tolerance of the control supply voltage frequency  * related value  * related	control supply voltage frequency	50 60 Hz
requency  * rated value  * 24 V  * 20 %  * 20 %  * 20 %  * Control supply current in standby mode rated value  * rated point peak at application of control supply voltage  * rated point peak at application of control supply voltage  * rated point of invush current peak at application of control supply  * voltage  * design of short-circuit protection for control circuit  * rated point peak at application of control supply  * voltage  * rated value  * parameterizable  * parameterizable  * number of digital outputs  * number of digital outputs  * number of digital outputs  * number of digital outputs parameterizable  * number of digital output		-10 %
exitated value		10 %
relative positive tolerance of the control supply voltage at DC control supply current in standby mode rated value ADD	control supply voltage at DC	
poc "elative positive tolerance of the control supply voltage at DC Control supply current in standby mode rated value 440 mA   holding current in bypass operation rated value 720 mA   inrush current peak at application of control supply voltage mountain of inrush current peak at application of control supply voltage mountain of inrush current peak at application of control supply voltage mountain of the control of inrush current peak at application of control supply voltage of supply voltage of supply voltage of the overvoltage protection 4 A gG fuse four 14 A) G quick-acting fuse (lou-14 A). C1 ministure circuit beasers (lou-900 A), C6 ministure circuit beasers (lou-900 A), C7 and C7	rated value	24 V
control supply current in standby mode rated value holding current in bypass operation rated value Innah current by closing the bypass contacts maximum Innah current peak at application of control supply vottage maximum design of the overvoltage protection  design of short-circuit protection for control circuit design of short-circuit protection for control circuit  ### A gG fuse (Icu=1 kA), 8 A quick-acting fuse (Icu=1 kA), 10 miniature circuit broader (Icu=600 A), 10 miniature circuit		-20 %
Inciding current to bypass operation rated value   720 mA		20 %
Inrush current by closing the bypass contacts 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  inputs of Outputs  inputs of Outputs parameterizable  inputs outputs on parameterizable  inputs outputs out	control supply current in standby mode rated value	440 mA
Invision current peak at application of control supply voltage maximum  duration of incurs current peak at application of control supply voltage  design of the overvoltage protection  design of short-circuit protection for control circuit  beaker (cur- 600 A), 65 ministure circuit breaker (cur- 300 A), 1s not part of scope of supply)  Inputs/ Outputs  number of digital inputs  • parameterizable  • number of digital outputs parameterizable  • number of analog outputs  • sut AC-15 at 250 V rated value  • at AC-15 at 250 V	holding current in bypass operation rated value	720 mA
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  inputs/ Outputs  number of digital inputs  • parameterizable  • number of digital outputs  • number of digital outputs  • number of digital outputs parameterizable  • number of digital outputs  • at NC-15 at 250 V rated value  • at OC-13 at 24 V rated value  • at OC-13 at 250 V rated v	inrush current by closing the bypass contacts maximum	6.7 A
voltage design of the overvoltage protection design of short-circuit protection for control circuit  **Protect Outputs**  **Inputs/ Outputs**  **Inputs/ Outputs**  **Inumber of digital inputs**  **Inumber of digital outputs**  **Inumber of digital output		7.5 A
design of short-circuit protection for control circuit breakers (ize 50A, C6 miniature circuit breaker (ize 300 A); is not part of scope of supply  number of digital inputs  number of digital outputs  number of digital outputs  number of digital outputs  number of digital outputs parameterizable  digital output version  number of analog outputs  number of digital outputs parameterizable  number of digital outputs parameterizable  number of digital outputs parameterizable  number of digital outputs  number of digital outputs parameterizable  number of digital outputs parameterizable  number of digital outputs parameterizable  number of digital outputs parameterizable outputs  number of digital outputs parameterizable on number parameterizable on number parameterizable on number parameterizable on number parameterizable  numb		20 ms
Inputs   Outputs	design of the overvoltage protection	Varistor
number of digital inputs    parameterizable	design of short-circuit protection for control circuit	breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of
number of digital outputs     number of digital outputs parameterizable     number of digital outputs not parameterizable     inumber of digital outputs not parameterizable     digital output varsion     number of analog outputs     1     switching capacity current of the relay outputs	Inputs/ Outputs	
• number of digital outputs     • number of digital outputs parameterizable     • number of digital outputs parameterizable     • number of digital outputs not parameterizable     • number of alighal outputs     • al number of alighal outputs     • al AC-15 at 250 V rated value     • at DC-13 at 24 V rated value     • at DC-	number of digital inputs	4
• number of digital outputs not parameterizable     • number of digital outputs not parameterizable     digital output version     number of analog outputs     switching capacity current of the rolay 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     • at DC-13 at 24 V rated value     1A  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     • at the side     weight without packaging     to at the side     weight without packaging     to F main current circuit     • for control circuit     • for control circuit     • 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     • for DIN cable lug for main contacts finely stranded     • for Control circuit solid     • for Control circuit solid     • for DIN cable lug for main contacts finely stranded     • for control circuit solid     • for control circuit solid     • for Control circuit solid     • for DIN cable lug for main contacts finely stranded     • for Control circuit solid     1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	parameterizable	4
• number of digital outputs not parameterizable     • number of digital outputs not parameterizable     digital output version     number of analog outputs     switching capacity current of the rolay 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     • at DC-13 at 24 V rated value     1A  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     • at the side     weight without packaging     to at the side     weight without packaging     to F main current circuit     • for control circuit     • for control circuit     • 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     • for DIN cable lug for main contacts finely stranded     • for Control circuit solid     • for Control circuit solid     • for DIN cable lug for main contacts finely stranded     • for control circuit solid     • for control circuit solid     • for Control circuit solid     • for DIN cable lug for main contacts finely stranded     • for Control circuit solid     1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)		
In number of digital outputs not parameterizable digital output version number of analog outputs  In at AC-15 at 250 V rated value at DC-13 at 24 V rated value at DC-13 at 24 V rated value at DC-13 at 24 V rated value  Tastallation* mounting dimensions  Town mounting position  Vertical (can be rotated +/- 90" and tilted forward or backward +/- 22.5")  Fastening method screw fixing  Aleight side-by-side mounting forwards obsckwards obsc	<ul> <li>number of digital outputs</li> </ul>	4
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  1 A  Installation/ mounting/ dimensions  mounting position  Sorew fixing height  4 at AC-8 at 250 V rated value  9 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  sorew fixing height  393 mm  vixith  4 210 mm  4 depth  10 mm  • forwards  • upwards  • upwards  • upwards  • downwards  • at the side  weight without packaging  Connections/ Terminals  type of electrical connection  • for ornic clircuit  • for onnection arm maximum  wire length for thermistor connection  • with conductor cross-section = 1.5 mm² maximum  • with conductor cross-section = 1.5 mm² maximum  • with conductor cross-section = 0.5 mm² maximum  • with conductor cross-section = 1.5 mm² maximum  • with conductor cross-section = 1.5 mm² maximum  • with conductor cross-section = 2.5 mm² maximum  • with conductor cross-sections  • for DIN cable lug for main contacts finely stranded  • for DIN cable lug for main contacts finely stranded  • for control circuit solid  • for DIN cable lug for main contacts finely stranded  • for DIN cable lug for main contacts finely stranded  • for control circuit solid  • for control circuit solid	<ul> <li>number of digital outputs parameterizable</li> </ul>	3
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  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 backwards backwards backwards backwards backwards backwards backwards for min current circuit for medicions/ Terminals  type of electrical connection for main current circuit for control circuit with conductor cross-section = 0.5 mm² maximum with conductor cross-section = 1.5 mm² maximum with conductor cross-sections for DIN cable lug for main contacts frinely stranded for connectable conductor cross-sections for connectable conductor cross-sections for connectable conductor cross-sections for control circuit solid  for connectable conductor cross-sections for control circuit solid  1 x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	<ul> <li>number of digital outputs not parameterizable</li> </ul>	1
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  Installation/mounting/ dimensions  mounting position  Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)  fastening method  screw fixing  393 mm  width  depth  203 mm  required spacing with side-by-side mounting  forwards  backwards  0 mm  backwards  0 mm  downwards  4 downwards  4 the side  weight without packaging  Connections/ Terminals  type of electrical connection  for control circuit  with conductor cross-section = 0.5 mm² maximum  with conductor cross-section = 1.5 mm² maximum  with conductor cross-section = 2.5 mm² maximum  by for DIN cable lug for main contacts stranded  for DIN cable lug for main contacts stranded  for control circuit sold  for control circuit sold  type of connectable conductor cross-sections  for control circuit sold  1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	digital output version	3 normally-open contacts (NO) / 1 changeover contact (CO)
at ICC-13 at 250 V rated value  at ICC-13 at 24 V rated value  1 A  Installation/ mounting/ dimensions  mounting position  Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)  fastening method  screw fixing  height  393 mm  width  210 mm  depth  203 mm  required spacing with side-by-side mounting  • forwards  • backwards  • upwards  • upwards  • downwards  • at the side  5 mm  weight without packaging  Connections/ Terminals  type of electrical connection  • for control circuit  • for control circuit  • for control cross-section = 0.5 mm² maximum  • with conductor cross-section = 0.5 mm² maximum  • with conductor cross-section = 0.5 mm² maximum  • with conductor cross-section = 2.5 mm² maximum  • with conductor cross-section = 2.5 mm² maximum  • for DIN cable lug for main contacts stranded  • for DIN cable lug for main contacts stranded  • for control circuit solid  • for connectable conductor cross-sections  • for control circuit solid  • for control circuit solid  1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	number of analog outputs	1
• at DC-13 at 24 V rated value  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  • for control circuit  • for DIN cable lug for main contacts franded  • for control circuit solid  • for control circuit stolid	switching capacity current of the relay outputs	
Installation/ mounting/ dimensions  mounting position  fastening method  height  393 mm  width  4210 mm  depth  required spacing with side-by-side mounting  • forwards  • backwards  • upwards  • downwards  • at the side  ### 100 mm  ### 100 kg  ### 100 mm  ### 100 kg  ### 100 mm  ### 100 kg  ### 100 kg  ### 100 mm  ### 100 kg  #	<ul> <li>at AC-15 at 250 V rated value</li> </ul>	3 A
mounting position  Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)  fastening method  screw fixing  393 mm  width  210 mm  depth  203 mm  required spacing with side-by-side mounting  • forwards  • backwards  • upwards  • downwards  • 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 = 2.5 mm² maximum  • with conductor cross-section = 2.5 mm² maximum  • for DIN cable lug for main contacts finely stranded  • for connectable conductor cross-sections  • for control circuit solid  1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	<ul> <li>at DC-13 at 24 V rated value</li> </ul>	1 A
fastening method height width 210 mm  depth 203 mm  required spacing with side-by-side mounting  • forwards • backwards • oupwards • downwards • at the side weight without packaging  Connections/Terminals  type of electrical connection • for control circuit with conductor cross-sections • with conductor cross-sections • for DIN cable lug for main contacts finely stranded • for connectable conductor cross-sections • for connectable conductor cross-sections • for connectable conductor cross-sections • for DIN cable lug for main contacts finely stranded • for connectable conductor cross-sections • for control circuit solid  1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	Installation/ mounting/ dimensions	
height 393 mm  width 210 mm  depth 203 mm  required spacing with side-by-side mounting  • forwards • backwards • upwards • downwards • at the side  weight without packaging  Connections/ Terminals  type of electrical connection • for control circuit • for control coross-section = 0.5 mm² maximum • with conductor cross-section = 1.5 mm² maximum • with conductor cross-section = 2.5 mm² maximum • for DIN cable lug for main contacts finely stranded • for control circuit sold • for connectable conductor cross-sections • for connectable conductor cross-sections • for control circuit sold • for DIN cable lug for main contacts finely stranded • for control circuit solid  1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	mounting position	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)
width 210 mm  depth 203 mm  required spacing with side-by-side mounting  • forwards 10 mm  • backwards 0 mm  • upwards 100 mm  • at the side 5 mm  weight without packaging 10.2 kg  Connections/ Terminals  type of electrical connection  • for control circuit busbar connection  • for control circuit solid  with conductor cross-section = 0.5 mm² maximum 150 m  • with conductor cross-section = 2.5 mm² maximum 250 m  type of connectable conductor cross-sections  • for DIN cable lug for main contacts finely stranded 2x (70 240 mm²)  type of connectable conductor cross-sections  • for control circuit solid 1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	fastening method	screw fixing
depth     203 mm       required spacing with side-by-side mounting     10 mm       • forwards     0 mm       • backwards     0 mm       • upwards     100 mm       • downwards     75 mm       • at the side     5 mm       weight without packaging     10.2 kg       Connections/ Terminals       type of electrical connection     6 for main current circuit     busbar connection       • for control circuit     screw-type 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 = 2.5 mm² maximum     250 m       type of connectable conductor cross-sections     2x (50 240 mm²)       • for DIN cable lug for main contacts stranded     2x (50 240 mm²)       • for control circuit solid     1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	height	393 mm
required spacing with side-by-side mounting  • forwards • backwards • upwards • downwards • at the side • at the side  weight without packaging  Connections/ Terminals  type of electrical connection • for control circuit • for control circuit  with conductor cross-section = 0.5 mm² maximum  with conductor cross-section = 1.5 mm² maximum  type of connectable conductor stranded • for DIN cable lug for main contacts stranded • for DIN cable lug for main contacts finely stranded • for control circuit solid  10 mm  0 max  0 kg  0 mm  0 u0.2 kg  0 mm  0 busbar connection  0 busbar connection  0 screw-type terminals  45 mm  45 mm  0 mm  150 m  150 m  0 mm  150 m  150	width	210 mm
<ul> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> <li>5 mm</li> <li>weight without packaging</li> <li>10.2 kg</li> </ul> Connections/ Terminals type of electrical connection <ul> <li>for main current circuit</li> <li>for control circuit</li> <li>width of connection bar maximum</li> <li>wire length for thermistor connection</li> <li>with conductor cross-section = 0.5 mm² maximum</li> <li>with conductor cross-section = 1.5 mm² maximum</li> <li>with conductor cross-section = 2.5 mm² maximum</li> <li>with conductor cross-section = 2.5 mm² maximum</li> <li>for DIN cable lug for main contacts stranded</li> <li>for DIN cable lug for main contacts finely stranded</li> <li>type of connectable conductor cross-sections</li> <li>for control circuit solid</li> <li>for control circuit solid</li> <li>1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)</li> </ul>	depth	203 mm
backwards     upwards     upwards     downwards     at the side     5 mm  weight without packaging     10.2 kg  Connections/ Terminals  type of electrical connection     for control circuit     screw-type terminals  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     with conductor cross-section = 2.5 mm² maximum     owith conductor cross-sections     for DIN cable lug for main contacts stranded     for DIN cable lug for main contacts finely stranded type of connectable conductor cross-sections     for control circuit solid  1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	required spacing with side-by-side mounting	
<ul> <li>upwards</li> <li>downwards</li> <li>at the side</li> <li>5 mm</li> <li>weight without packaging</li> <li>10.2 kg</li> </ul> Connections/ Terminals type of electrical connection <ul> <li>for main current circuit</li> <li>for control circuit</li> <li>screw-type terminals</li> </ul> width of connection bar maximum <ul> <li>wire length for thermistor connection</li> <li>with conductor cross-section = 0.5 mm² maximum</li> <li>with conductor cross-section = 1.5 mm² maximum</li> <li>with conductor cross-section = 2.5 mm² maximum</li> <li>with conductor cross-section = 2.5 mm² maximum</li> <li>of or DIN cable lug for main contacts stranded</li> <li>for DIN cable lug for main contacts finely stranded</li> <li>type of connectable conductor cross-sections</li> <li>for control circuit solid</li> <li>1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)</li> </ul>	• forwards	10 mm
• downwards • at the side  • busbar connection  • busbar connection  • busbar connection  • acrew-type terminals  • at the side  • acrew-type terminals  • acrew-type t	backwards	0 mm
<ul> <li>at the side</li> <li>b mm</li> <li>weight without packaging</li> <li>10.2 kg</li> </ul> Connections/ Terminals type of electrical connection <ul> <li>for main current circuit</li> <li>for control circuit</li> <li>screw-type terminals</li> </ul> width of connection bar maximum <ul> <li>wire length for thermistor connection</li> <li>with conductor cross-section = 0.5 mm² maximum</li> <li>with conductor cross-section = 1.5 mm² maximum</li> <li>with conductor cross-section = 2.5 mm² maximum</li> <li>with conductor cross-section = 2.5 mm² maximum</li> <li>for DIN cable lug for main contacts stranded</li> <li>for DIN cable lug for main contacts finely stranded</li> <li>for DIN cable lug for main contacts finely stranded</li> <li>for connectable conductor cross-sections</li> <li>for connectable conductor cross-sections</li> <li>for connectable conductor cross-sections</li> <li>for connectable conductor cross-sections</li> <li>for control circuit solid</li> <li>1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)</li> </ul>	• upwards	100 mm
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  • with conductor cross-sections  • for DIN cable lug for main contacts stranded • for DIN cable lug for main contacts finely stranded  type of connectable conductor cross-sections  • for control circuit solid  1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	<ul><li>downwards</li></ul>	75 mm
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  • with conductor cross-sections  • for DIN cable lug for main contacts stranded  • for DIN cable lug for main contacts finely stranded  type of connectable conductor cross-sections  • for control circuit solid  1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	at the side	5 mm
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  • with conductor cross-sections  • for DIN cable lug for main contacts stranded  • for DIN cable lug for main contacts finely stranded  type of connectable conductor cross-sections  • for control circuit solid  1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	weight without packaging	10.2 kg
<ul> <li>for main current circuit</li> <li>for control circuit</li> <li>screw-type terminals</li> <li>width of connection bar maximum</li> <li>wire length for thermistor connection</li> <li>with conductor cross-section = 0.5 mm² maximum</li> <li>with conductor cross-section = 1.5 mm² maximum</li> <li>with conductor cross-section = 2.5 mm² maximum</li> <li>with conductor cross-section = 2.5 mm² maximum</li> <li>for DIN cable lug for main contacts stranded</li> <li>for DIN cable lug for main contacts finely stranded</li> <li>type of connectable conductor cross-sections</li> <li>for control circuit solid</li> <li>1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)</li> </ul>	Connections/ Terminals	
<ul> <li>for control circuit</li> <li>width of connection bar maximum</li> <li>wire length for thermistor connection</li> <li>with conductor cross-section = 0.5 mm² maximum</li> <li>with conductor cross-section = 1.5 mm² maximum</li> <li>with conductor cross-section = 2.5 mm² maximum</li> <li>with conductor cross-section = 2.5 mm² maximum</li> <li>type of connectable conductor cross-sections</li> <li>for DIN cable lug for main contacts stranded</li> <li>for DIN cable lug for main contacts finely stranded</li> <li>type of connectable conductor cross-sections</li> <li>for control circuit solid</li> <li>1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)</li> </ul>	type of electrical connection	
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 DIN cable lug for main contacts stranded  • for DIN cable lug for main contacts finely stranded  type of connectable conductor cross-sections  • for control circuit solid  1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	for main current circuit	busbar connection
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  250 m  type of connectable conductor cross-sections  • for DIN cable lug for main contacts stranded  • for DIN cable lug for main contacts finely stranded  2x (50 240 mm²)  type of connectable conductor cross-sections  • for control circuit solid  1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)		screw-type terminals
<ul> <li>with conductor cross-section = 0.5 mm² maximum</li> <li>with conductor cross-section = 1.5 mm² maximum</li> <li>with conductor cross-section = 2.5 mm² maximum</li> <li>with conductor cross-section = 2.5 mm² maximum</li> <li>type of connectable conductor cross-sections</li> <li>for DIN cable lug for main contacts stranded</li> <li>for DIN cable lug for main contacts finely stranded</li> <li>type of connectable conductor cross-sections</li> <li>for control circuit solid</li> <li>1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)</li> </ul>		45 mm
<ul> <li>with conductor cross-section = 1.5 mm² maximum</li> <li>with conductor cross-section = 2.5 mm² maximum</li> <li>type of connectable conductor cross-sections</li> <li>for DIN cable lug for main contacts stranded</li> <li>for DIN cable lug for main contacts finely stranded</li> <li>type of connectable conductor cross-sections</li> <li>for control circuit solid</li> <li>1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)</li> </ul>		
<ul> <li>with conductor cross-section = 2.5 mm² maximum</li> <li>type of connectable conductor cross-sections</li> <li>for DIN cable lug for main contacts stranded</li> <li>for DIN cable lug for main contacts finely stranded</li> <li>type of connectable conductor cross-sections</li> <li>for control circuit solid</li> <li>1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)</li> </ul>		
type of connectable conductor cross-sections  • 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  • for control circuit solid  1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)		
<ul> <li>for DIN cable lug for main contacts stranded</li> <li>for DIN cable lug for main contacts finely stranded</li> <li>type of connectable conductor cross-sections</li> <li>for control circuit solid</li> <li>1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)</li> </ul>		250 m
• for DIN cable lug for main contacts finely stranded  type of connectable conductor cross-sections  • for control circuit solid  2x (70 240 mm²)  1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	type of connectable conductor cross-sections	
type of connectable conductor cross-sections  • for control circuit solid  1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	<ul> <li>for DIN cable lug for main contacts stranded</li> </ul>	2x (50 240 mm²)
• for control circuit solid 1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	for DIN cable lug for main contacts finely stranded	2x (70 240 mm²)
	type of connectable conductor cross-sections	
• for control circuit finely stranded with core end processing 1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)	<ul> <li>for control circuit solid</li> </ul>	1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)
	- for control circuit finally atranded with some and processing	
• for AWG cables for control circuit solid 1x (20 12), 2x (20 14)	Tor control circuit linely stranded with core end processing	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)

wire length	
<ul> <li>between soft starter and motor maximum</li> </ul>	800 m
at the digital inputs at DC maximum	1 000 m
tightening torque	
<ul> <li>for main contacts with screw-type terminals</li> </ul>	14 24 N·m
for auxiliary and control contacts with screw-type     terminals.	0.8 1.2 N·m
terminals	
tightening torque [lbf-in]	124 210 lbf·in
for main contacts with screw-type terminals	
<ul> <li>for auxiliary and control contacts with screw-type terminals</li> </ul>	7 10.3 lbf-in
Ambient conditions	
installation altitude at height above sea level maximum	5 000 m; Derating as of 1000 m, see catalog
ambient temperature	
during operation	-25 +60 °C; Please observe derating at temperatures of 40 °C or above
during storage and transport	-40 +80 °C
environmental category	
<ul> <li>during operation according to IEC 60721</li> </ul>	3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2
3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	(sand must not get into the devices), 3M6
<ul> <li>during storage according to IEC 60721</li> </ul>	1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4 $$
during transport according to IEC 60721	2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)
Environmental footprint	
Siemens Eco Profile (SEP)	Siemens EcoTech
EMC emitted interference	acc. to IEC 60947-4-2: Class A
Communication/ Protocol	
communication module is supported	
<ul> <li>PROFINET standard</li> </ul>	Yes
<ul> <li>PROFINET high-feature</li> </ul>	Yes
EtherNet/IP	Yes
<ul> <li>Modbus RTU</li> </ul>	Yes
Modbus TCP	Yes
• PROFIBUS	Yes
UL/CSA ratings	
manufacturer's article number	
<ul> <li>of circuit breaker usable for Standard Faults</li> </ul>	
— at 460/480 V according to UL	Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 18 kA
— 60/480 V according to UL	Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; lq max = 65 kA
<ul> <li>— at 460/480 V at inside-delta circuit according to UL</li> </ul>	Siemens type: 3VA54, max. 600 A; Iq = 18 kA
<ul> <li>— 60/480 V at inside-delta circuit according to UL</li> </ul>	Siemens type: 3VA54, max. 600 A; Iq max = 65 kA
— at 575/600 V according to UL	Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 18 kA
<ul> <li>75/600 V at inside-delta circuit according to UL</li> </ul>	Siemens type: 3VA54, max. 600 A; Iq max = 65 kA
— at 575/600 V at inside-delta circuit according to UL	Siemens type: 3VA54, max. 600 A; Iq = 18 kA
of the fuse	
<ul> <li>usable for Standard Faults up to 575/600 V according to UL</li> </ul>	
— usable for High Faults up to 575/600 V according to	Type: Class J / L, max. 1000 A; Iq = 18 kA
UL	Type: Class J / L, max. 1000 A; Iq = 18 kA  Type: Class J / L, max. 1000 A; Iq = 100 kA
· ·	
UL  — usable for Standard Faults at inside-delta circuit up	Type: Class J / L, max. 1000 A; Iq = 100 kA
UL  — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL  — usable for High Faults at inside-delta circuit up to	Type: Class J / L, max. 1000 A; Iq = 100 kA  Type: Class J / L, max. 1000 A; Iq = 18 kA
UL  — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL  — usable for High Faults at inside-delta circuit up to 575/600 V according to UL	Type: Class J / L, max. 1000 A; Iq = 100 kA  Type: Class J / L, max. 1000 A; Iq = 18 kA
UL  — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL  — usable for High Faults at inside-delta circuit up to 575/600 V according to UL  operating power [hp] for 3-phase motors	Type: Class J / L, max. 1000 A; Iq = 100 kA  Type: Class J / L, max. 1000 A; Iq = 18 kA  Type: Class J / L, max. 1000 A; Iq = 100 kA
UL  — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL  — usable for High Faults at inside-delta circuit up to 575/600 V according to UL  operating power [hp] for 3-phase motors  • at 200/208 V at 50 °C rated value	Type: Class J / L, max. 1000 A; Iq = 100 kA  Type: Class J / L, max. 1000 A; Iq = 18 kA  Type: Class J / L, max. 1000 A; Iq = 100 kA
UL  — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL  — usable for High Faults at inside-delta circuit up to 575/600 V according to UL  operating power [hp] for 3-phase motors  • at 200/208 V at 50 °C rated value  • at 220/230 V at 50 °C rated value	Type: Class J / L, max. 1000 A; Iq = 100 kA  Type: Class J / L, max. 1000 A; Iq = 18 kA  Type: Class J / L, max. 1000 A; Iq = 100 kA
UL  — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL  — usable for High Faults at inside-delta circuit up to 575/600 V according to UL  operating power [hp] for 3-phase motors  • at 200/208 V at 50 °C rated value  • at 220/230 V at 50 °C rated value  • at 460/480 V at 50 °C rated value	Type: Class J / L, max. 1000 A; Iq = 100 kA  Type: Class J / L, max. 1000 A; Iq = 18 kA  Type: Class J / L, max. 1000 A; Iq = 100 kA  75 hp 100 hp 200 hp
UL  — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL  — usable for High Faults at inside-delta circuit up to 575/600 V according to UL  operating power [hp] for 3-phase motors  • at 200/208 V at 50 °C rated value  • at 220/230 V at 50 °C rated value  • at 460/480 V at 50 °C rated value  • at 200/208 V at inside-delta circuit at 50 °C rated value	Type: Class J / L, max. 1000 A; Iq = 100 kA  Type: Class J / L, max. 1000 A; Iq = 18 kA  Type: Class J / L, max. 1000 A; Iq = 100 kA  75 hp 100 hp 200 hp 150 hp
UL  — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL  — usable for High Faults at inside-delta circuit up to 575/600 V according to UL  operating power [hp] for 3-phase motors  • at 200/208 V at 50 °C rated value  • at 220/230 V at 50 °C rated value  • at 460/480 V at 50 °C rated value  • at 200/208 V at inside-delta circuit at 50 °C rated value  • at 220/230 V at inside-delta circuit at 50 °C rated value	Type: Class J / L, max. 1000 A; Iq = 100 kA  Type: Class J / L, max. 1000 A; Iq = 18 kA  Type: Class J / L, max. 1000 A; Iq = 100 kA  75 hp 100 hp 200 hp 150 hp 200 hp
UL  — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL  — usable for High Faults at inside-delta circuit up to 575/600 V according to UL  operating power [hp] for 3-phase motors  • at 200/208 V at 50 °C rated value  • at 220/230 V at 50 °C rated value  • at 460/480 V at 50 °C rated value  • at 200/208 V at inside-delta circuit at 50 °C rated value  • at 220/230 V at inside-delta circuit at 50 °C rated value  • at 460/480 V at inside-delta circuit at 50 °C rated value	Type: Class J / L, max. 1000 A; Iq = 100 kA  Type: Class J / L, max. 1000 A; Iq = 18 kA  Type: Class J / L, max. 1000 A; Iq = 100 kA  75 hp 100 hp 200 hp 150 hp 200 hp 400 hp
UL  — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL  — usable for High Faults at inside-delta circuit up to 575/600 V according to UL  operating power [hp] for 3-phase motors  • at 200/208 V at 50 °C rated value  • at 220/230 V at 50 °C rated value  • at 460/480 V at 50 °C rated value  • at 200/208 V at inside-delta circuit at 50 °C rated value  • at 220/230 V at inside-delta circuit at 50 °C rated value  • at 460/480 V at inside-delta circuit at 50 °C rated value  • at 460/480 V at inside-delta circuit at 50 °C rated value  contact rating of auxiliary contacts according to UL	Type: Class J / L, max. 1000 A; Iq = 100 kA  Type: Class J / L, max. 1000 A; Iq = 18 kA  Type: Class J / L, max. 1000 A; Iq = 100 kA  75 hp 100 hp 200 hp 150 hp 200 hp 400 hp

ATEX	
Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX	SIL1
PFHD with high demand rate according to IEC 61508 relating to ATEX	5E-7 1/h
PFDavg with low demand rate according to IEC 61508 relating to ATEX	0.008
hardware fault tolerance according to IEC 61508 relating to ATEX	0
T1 value for proof test interval or service life according to IEC 61508 relating to ATEX	3 a
certificate of suitability	
• ATEX	Yes
• IECEx	Yes
<ul> <li>according to ATEX directive 2014/34/EU</li> </ul>	BVS 18 ATEX F 003 X
type of protection according to ATEX directive 2014/34/EU	II (2)G [Ex eb Gb] [Ex db Gb] [Ex pxb Gb], II (2)D [Ex tb Db] [Ex pxb Db], I (M2) [Ex db Mb]

## Approvals Certificates

#### **General Product Approval**







Confirmation





EMV For use in hazardous locations Test Certificates Marine / Shipping



<u>KC</u>





Type Test Certificates/Test Report



Marine / Shipping other Environment







Confirmation



Siemens EcoTech



### **Environment**

Environmental Confirmations

# Further information

Information on the packaging

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

Information- and Downloadcenter (Catalogs, Brochures,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RW5545-6HA04

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5545-6HA04

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5545-6HA04

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

http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RW5545-6HA04&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

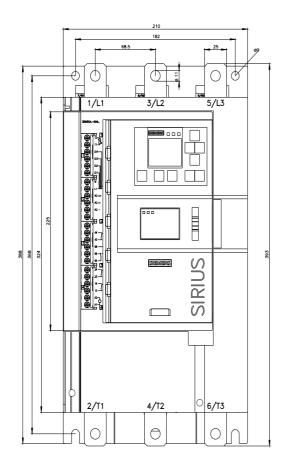
https://support.industry.siemens.com/cs/ww/en/ps/3RW5545-6HA04/char

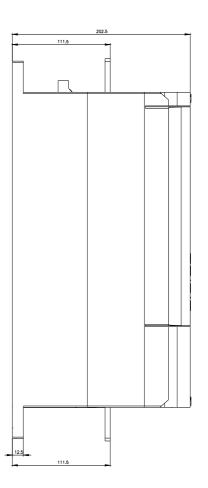
Characteristic: Installation altitude

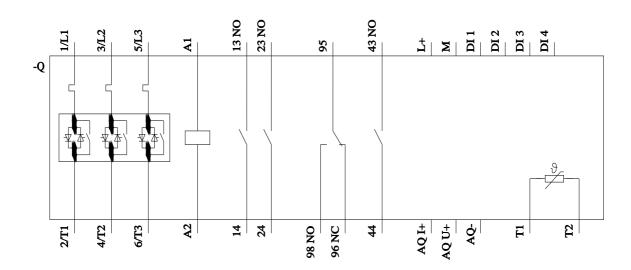
 $\underline{\text{http://www.automation.siemens.com/bilddb/index.aspx?view=Search\&mlfb=3RW5545-6HA04\&objecttype=14\&gridview=view1}$ 

Simulation Tool for Soft Starters (STS)

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







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