SIEMENS

Data sheet

3RW5224-1AC14



SIRIUS soft starter 200-480 V 47 A, 110-250 V AC Screw terminals Analog output

product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW52
manufacturer's article number	
 of standard HMI module usable 	<u>3RW5980-0HS00</u>
 of high feature HMI module usable 	<u>3RW5980-0HF00</u>
 of communication module PROFINET standard usable 	<u>3RW5980-0CS00</u>
 of communication module PROFIBUS usable 	<u>3RW5980-0CP00</u>
 of communication module Modbus TCP usable 	<u>3RW5980-0CT00</u>
 of communication module Modbus RTU usable 	<u>3RW5980-0CR00</u>
 of communication module Ethernet/IP 	<u>3RW5980-0CE00</u>
 of circuit breaker usable at 400 V 	3RV2032-4JA10; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V 	3RV2032-4JA10; Type of coordination 1, Iq = 10 kA, CLASS 10
 of circuit breaker usable at 400 V at inside-delta circuit 	3RV2032-4RA10; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V at inside-delta circuit 	3RV2032-4RA10; Type of coordination 1, Iq = 10 kA, CLASS 10
 of the gG fuse usable up to 690 V 	3NA3824-6; Type of coordination 1, Iq = 65 kA
 of the gG fuse usable at inside-delta circuit up to 500 V 	<u>3NA3824-6; Type of coordination 1, Iq = 65 kA</u>
 of full range R fuse link for semiconductor protection usable up to 690 V 	<u>3NE1021-2: Type of coordination 2. Iq = 65 kA</u>
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE8024-1; Type of coordination 2, Iq = 65 kA
eneral technical data	
starting voltage [%]	30 100 %
stopping voltage [%]	50 50 %
start-up ramp time of soft starter	0 20 s
current limiting value [%] adjustable	130 700 %
certificate of suitability	
CE marking	Yes
• UL approval	Yes
CSA approval	Yes
product component is supported	
HMI-Standard	Yes
HMI-High Feature	Yes
product feature integrated bypass contact system	Yes

number of controlled phases	3
trip class	 CLASS 10A (default) / 10E / 20E; acc. to IEC 60947-4-2
buffering time in the event of power failure	CLASS_TOA (default) / TOE / 20E, acc. to TEC 00547-4-2
for main current circuit	100 ms
for control circuit	100 ms
insulation voltage rated value	600 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
surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	600 V
between main and auxiliary circuit shock resistance	
	15 g / 11 ms, from 12 g / 11 ms with potential contact lifting
vibration resistance	15 mm to 6 Hz; 2g to 500 Hz
utilization category acc. to IEC 60947-4-2 reference code acc. to IEC 81346-2	AC 53a
	Q 15.02.2018.00:00:00
Substance Prohibitance (Date)	15.02.2018 00:00:00
product function	Ver
• ramp-up (soft starting)	Yes
ramp-down (soft stop)	Yes
Soft Torque	Yes
adjustable current limitation	Yes
 pump ramp down 	Yes
 intrinsic device protection 	Yes
 motor overload protection 	Yes; Electronic motor overload protection
 evaluation of thermistor motor protection 	No
 inside-delta circuit 	Yes
auto-RESET	Yes
 manual RESET 	Yes
remote reset	Yes; By turning off the control supply voltage
 communication function 	Yes
 operating measured value display 	Yes; Only in conjunction with special accessories
error logbook	Yes; Only in conjunction with special accessories
 via software parameterizable 	No
 via software configurable 	Yes
PROFlenergy	Yes; in connection with the PROFINET Standard communication module
 firmware update 	Yes
 removable terminal for control circuit 	Yes
torque control	No
 analog output 	Yes; 4 20 mA (default) / 0 10 V (parameterizable with High Feature HMI)
Power Electronics	
operational current	
• at 40 °C rated value	47 A
• at 50 °C rated value	42 A
• at 60 °C rated value	36 A
operational current at inside-delta circuit	
• at 40 °C rated value	81.4 A
• at 50 °C rated value	72 A
• at 60 °C rated value	62.7 A
operating voltage	
rated value	200 480 V
 at inside-delta circuit rated value 	200 480 V
relative negative tolerance of the operating voltage	-15 %
relative positive tolerance of the operating voltage	10 %
relative negative tolerance of the operating voltage at inside-delta circuit	-15 %

relative positive tolerance of the operating voltage at inside-delta circuit	10 %
operating power for 3-phase motors	
 at 230 V at 40 °C rated value 	11 kW
 at 230 V at inside-delta circuit at 40 °C rated value 	22 kW
 at 400 V at 40 °C rated value 	22 kW
 at 400 V at inside-delta circuit at 40 °C rated value 	45 kW
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 %
adjustable motor current	
 at rotary coding switch on switch position 1 	20 A
 at rotary coding switch on switch position 2 	21.8 A
 at rotary coding switch on switch position 3 	23.6 A
 at rotary coding switch on switch position 4 	25.4 A
 at rotary coding switch on switch position 5 	27.2 A
 at rotary coding switch on switch position 6 	29 A
 at rotary coding switch on switch position 7 	30.8 A
at rotary coding switch on switch position 8	32.6 A
 at rotary coding switch on switch position 9 	34.4 A
 at rotary coding switch on switch position 10 	36.2 A
 at rotary coding switch on switch position 11 	38 A
 at rotary coding switch on switch position 12 	39.8 A
 at rotary coding switch on switch position 13 	41.6 A
 at rotary coding switch on switch position 14 	43.4 A
at rotary coding switch on switch position 15	45.2 A
 at rotary coding switch on switch position 16 	47 A
• minimum	20 A
adjustable motor current	
 for inside-delta circuit at rotary coding switch on switch position 1 	34.6 A
 for inside-delta circuit at rotary coding switch on switch position 2 	37.8 A
 for inside-delta circuit at rotary coding switch on switch position 3 	40.9 A
 for inside-delta circuit at rotary coding switch on switch position 4 	44 A
 for inside-delta circuit at rotary coding switch on switch position 5 	47.1 A
 for inside-delta circuit at rotary coding switch on switch position 6 	50.2 A
 for inside-delta circuit at rotary coding switch on switch position 7 	53.3 A
 for inside-delta circuit at rotary coding switch on switch position 8 	56.5 A
 for inside-delta circuit at rotary coding switch on switch position 9 	59.6 A
• for inside-delta circuit at rotary coding switch on switch position 10	62.7 A
 for inside-delta circuit at rotary coding switch on switch position 11 	65.8 A
 for inside-delta circuit at rotary coding switch on switch position 12 for inside delta circuit at rotary coding switch on 	68.9 A
 for inside-delta circuit at rotary coding switch on switch position 13 for inside delta circuit at rotary coding switch on 	72.1 A
 for inside-delta circuit at rotary coding switch on switch position 14 for inside delta circuit at rotary coding switch on 	75.2 A
 for inside-delta circuit at rotary coding switch on switch position 15 for inside delta circuit at rotary coding switch on 	78.3 A
 for inside-delta circuit at rotary coding switch on switch position 16 	81.4 A

minimum load [%] 15 %: Reliative to smallest settable le prover loss [W] for rate value of the current at AC 26 W • at 40 °C after statup 24 W • at 40 °C after statup 23 W power loss [W] at AC a current limitation 350 % • at 50 °C during statup • at 40 °C during statup 522 W • at 50 °C during statup 438 W Control stopply voltage at AC 10 250 V • at 50 °C during statup 55 % • at 50 °C during statup 438 W Control stopply voltage at AC 110 250 V • at 50 °L 2 110 250 V • at 50 °L 2 10 % • relative negative tolerance of the control supply 10 % • voltage at AC at 60 °L 2 10 % • relative negative tolerance of the control supply 10 % • voltage at AC at 60 °L 2 10 % • relative positive tolerance of the control supply 10 % • voltage frequency 60 60 °L 2 • relative negative tolerance of the control supply 10 % • voltage frequency 10 % • control supply voltage frequency 10 % </th <th></th> <th></th>		
power loss [W] for rated value of the current at AC at 40 °C after startup 24 W • at 40 °C after startup 23 W • at 40 °C after startup 23 W • at 40 °C during startup 52 W • at 60 °C during startup 53 W Control supply voltage of the control supply 10 250 V • at 60 °L during startup 10 250 V • at 60 °L during startup 10 250 V • at 60 °L2 110 250 V • at 60 °L2 10 250 V • at 60 °L2 10 °S • ortative sequitive tolerance of the control supply 10 % voltage at AC at 60 °L2 10 % • rotative sequitive tolerance of the control supply 10 % voltage frequency 50 60 °L2 • relative negative tolerance of the control supply 10 % voltage frequency 30 mA • control supply outage frequency 50 60 °L2 • relative negative tolerance of the control supply 10 % <td>at inside-delta circuit minimum</td> <td>34.6 A</td>	at inside-delta circuit minimum	34.6 A
		15 %; Relative to smallest settable le
e at 50 °C after starup 24 W e at 60 °C after starup 23 W at 60 °C during starup 606 W e at 60 °C during starup 606 W e at 60 °C during starup 438 W Control supply voltage of the control supply voltage AC control supply voltage at AC e at 50 °C during starup to for a supply voltage at AC e at 50 °C during starup to for a supply voltage at AC e at 50 °C during starup to for a supply voltage at AC e at 50 °C during starup to for a supply voltage at AC e at 50 °C during starup to for a supply voltage at AC e at 50 °C during starup to for a supply voltage at AC e at 50 °C during starup to for a supply voltage at AC e at 50 °C during starup to for a supply voltage at AC e at 50 °L e at 50 °L to for a supply voltage at AC e at 50 °L e at 50 °L e at 50 °L e at 50 °L for a		
• at 60 °C after starup 23 W power loss (M) at A2 a current limitation 550 % • et 40 °C during starup 606 W • at 60 °C during starup 522 W • at 60 °C during starup 438 W Control chrcuit/ Control 522 W • at 50 °C during starup 438 W Control chrcuit/ Control 522 W • at 50 °C during starup 438 W Control chrcuit/ Control 522 W • at 50 °C during starup 438 W Control chrcuit/ Control 52 W • at 50 °Fz 110 250 V • at 50 °Fz 110 250 V • at 50 °Fz 100 % • relative positive tolerance of the control supply 10 % • relative positive tolerance of the control supply 10 % • relative positive tolerance of the control supply 10 % • relative positive tolerance of the control supply 10 % • relative positive tolerance of the control supply 10 % • relative positive tolerance of the control supply 10 % • relative positive tolerance of the control supply 10 % • relative positive tolerance of the control supply 10 % • relative positive tolerance of the control supply 10 % • relative positive tolerance of the control supply 10 % • rela	 at 40 °C after startup 	26 W
power loss [W] at Ac at current limitation 350 % 606 W • at 40 °C during startup 522 W • at 60 °C during startup 438 W Control Gizzbill Control 438 W Control Supply voltage at AC 438 W • at 60 °C during startup 438 W Control Supply voltage at AC 110 250 V • at 60 hz 110 250 V • at 60 hz 110 250 V • at 60 hz 10 % voltage at AC at 60 hz -15 % relative negative tolerance of the control supply -15 % voltage at AC at 60 hz -15 % relative negative tolerance of the control supply -15 % voltage at AC at 60 hz -15 % relative negative tolerance of the control supply -10 % voltage at AC at 60 hz -10 % control supply voltage frequency 50 60 Hz relative negative tolerance of the control supply -10 % voltage frequency 50 60 Hz relative negative tolerance of the control supply 10 % control supply current in standby mode rated value 75 mA fo	 at 50 °C after startup 	24 W
e at 40 °C during startup e at 60 °C during startup e at 60 °C during startup e at 60 °C during startup for 22 W e at 60 °C during startup for 22 W e at 60 °C during startup for 22 W for 24 W fo	• at 60 °C after startup	23 W
e at 50 °C during startup e at 60 °C during startup e at 60 °C during startup factor fact	power loss [W] at AC at current limitation 350 %	
• at 60 °C during startup 438 W Control circuit/ Control supply voltage AC control supply voltage of the control supply 10 250 V • at 50 Hz 110 250 V • at 50 Hz 110 250 V • at 50 Hz 10 % • ottage at AC at 50 Hz 10 % • relative negative tolerance of the control supply 10 % • ottage at AC at 60 Hz 10 % • control supply voltage frequency 50 60 Hz • relative negative tolerance of the control supply 10 % • voltage frequency 50 60 Hz • relative positive tolerance of the control supply 10 % • voltage frequency 50 60 Hz • relative positive tolerance of the control supply 10 % • voltage frequency 50 60 Hz • relative positive tolerance of the control supply 10 %	 at 40 °C during startup 	606 W
Control circuit/ Control AC Syste of voltage of the control supply voltage AC e at 50 Hz 110 250 V = at 60 Hz 110 250 V relative negative tolerance of the control supply -15 % voltage at AC at 50 Hz 10 250 V relative negative tolerance of the control supply -15 % voltage at AC at 50 Hz -15 % relative negative tolerance of the control supply -15 % voltage at AC at 60 Hz -15 % relative negative tolerance of the control supply -15 % voltage frequency 50 60 Hz relative negative tolerance of the control supply -10 % voltage frequency 50 60 Hz relative negative tolerance of the control supply 10 % voltage frequency 50 60 Hz relative negative tolerance of the control supply 10 % voltage frequency 50 60 Hz relative negative tolerance of the control supply 10 % voltage frequency 50 60 Hz relative negative tolerance of the control supply 10 % voltage frequency <t< td=""><td> at 50 °C during startup </td><td>522 W</td></t<>	 at 50 °C during startup 	522 W
type of voltage of the control supply voltage AC control supply voltage at AC • at 60 Hz 110 250 V • at 60 Hz 110 250 V • 15 % relative negative tolerance of the control supply -15 % • 00 % voltage at AC at 50 Hz 10 % • 00 % relative negative tolerance of the control supply -15 % • 00 % voltage at AC at 50 Hz 0 % • 00 % relative negative tolerance of the control supply -15 % • 00 % voltage at AC at 60 Hz • 00 % • 00 % relative positive tolerance of the control supply -10 % • 00 % voltage frequency 50 60 Hz • 00 % relative negative tolerance of the control supply -10 % • 00 % voltage frequency 50 60 Hz • 00 % relative positive tolerance of the control supply -10 % • 00 % voltage at AC at 60 Hz • 00 % • 00 % control supply current in standby mode rated value 30 mA • 00 MA holding current in bytass operation rated value 30 mA • 00 Ma	 at 60 °C during startup 	438 W
control supply voltage at AC 110 250 V • at 30 Hz 110 250 V • at 60 Hz 110 250 V • relative negative tolerance of the control supply -15 % voltage at AC at 50 Hz 10 % relative negative tolerance of the control supply 10 % voltage at AC at 50 Hz 10 % relative positive tolerance of the control supply 10 % voltage at AC at 50 Hz 50 60 Hz relative positive tolerance of the control supply 10 % voltage at AC at 50 Hz 50 60 Hz control supply voltage frequency 50 60 Hz relative positive tolerance of the control supply -10 % voltage frequency 50 60 Hz relative positive tolerance of the control supply -10 % control supply voltage frequency 50 60 Hz relative positive tolerance of the control supply -10 % control supply voltage frequency 50 60 Hz control supply voltage frequency 10 % control supply voltage transaction rated value 30 mA holding current in standby mode rated value 30 mA locked rotor current toles ot bypass contact 10 m	Control circuit/ Control	
control supply voltage at AC 110 250 V • at 50 Hz 110 250 V • at 60 Hz 110 250 V • relative negative tolerance of the control supply -15 % voltage at AC at 50 Hz 10 % relative positive tolerance of the control supply 10 % voltage at AC at 50 Hz 10 % relative positive tolerance of the control supply 10 % voltage at AC at 50 Hz 0 % control supply voltage frequency 50 60 Hz • relative positive tolerance of the control supply 10 % voltage at AC at 50 Hz 0 % control supply voltage frequency 50 60 Hz • relative positive tolerance of the control supply 10 % voltage frequency 10 % roltage quency 10 % control supply voltage frequency 10 % control supply upternt in standby mode rated value 30 mA holding current i nestades at poplication of control supply voltage 12.2 A maximum 12.2 A 12.2 A duration of invsh current peak at application of control circuit 4 A gG kes (kurr 1 kA), 6 A quick acting fuse (kurr 1 kA), C1 ministure circuit breaker (kure 600 A), C6 ministure circuit break	type of voltage of the control supply voltage	AC
• at 60 Hz 110 250 V relative negative tolerance of the control supply -15 % relative positive tolerance of the control supply 10 % voltage at AC at 60 Hz 10 % relative negative tolerance of the control supply 10 % voltage at AC at 60 Hz 10 % relative negative tolerance of the control supply 10 % voltage at AC at 60 Hz 10 % relative negative tolerance of the control supply 10 % voltage at AC at 60 Hz 50 60 Hz relative negative tolerance of the control supply 10 % voltage frequency 50 60 Hz relative negative tolerance of the control supply 10 % voltage frequency 10 % control supply current in standby mode rated value 30 mA holding current in bypass operation rated value 75 mA locked-robr current at close of bypass contact 2.5 A maximum 2.2 A duration of inrush current peak at application of control supply voltage 12.2 A duration of inrush current peak at application of control circuit 4 ng 6 fuse (cur-1 kÅ), 6 A quick-acting fuse (cur=1 kÅ), C1 miniature circuit breaker (cure 500 A), 6 miniature circuit breaker (cure 500 A), 6 miniature circuit breaker (cure 300 A), is not parameterizable design of the overvoltage protection 1 number of di		
relative negative tolerance of the control supply voltage at AC at 50 Hz -15 % relative negative tolerance of the control supply voltage at AC at 50 Hz 10 % relative negative tolerance of the control supply voltage at AC at 60 Hz -15 % relative negative tolerance of the control supply voltage at AC at 60 Hz -15 % control supply voltage frequency 50 60 Hz relative negative tolerance of the control supply voltage frequency -10 % voltage frequency 50 60 Hz relative negative tolerance of the control supply voltage frequency 10 % voltage frequency -10 % control supply current in standby mode rated value 30 mA holding current in bypass operation rated value 30 mA locked-rotor current peak at application of control supply voltage maximum 12.2 A duration of inrush current peak at application of control supply voltage design of the overvoltage protection Varistor duration of inrush current peak at application of control supply voltage 10 % number of digital inputs 1 number of digital inputs 1 number of analog outputs 1 e at AC-13 at 24 V rated value 3 A e at DC-13 at 24 V rated value 3 A	• at 50 Hz	110 250 V
voltage at ÅC at 50 Hz 10 % relative positive tolerance of the control supply 10 % voltage at AC at 50 Hz 10 % relative negative tolerance of the control supply -15 % voltage at AC at 60 Hz 10 % relative positive tolerance of the control supply 10 % voltage at AC at 60 Hz 50 60 Hz control supply voltage frequency 50 60 Hz relative negative tolerance of the control supply -10 % voltage at AC at 50 Hz -00 % control supply current in standby mode rated value 30 mA holding current in bypass operation rated value 75 mA locked-rotor current at close of bypass contact 2.5 A mixum 2.2 A duration of inush current peak at application of control supply voltage 12.2 A duration of inush current peak at application of control circuit 4 A gG fuse (fcu= 1 kA), 6 A quick-acting fuse (fcu= 1 kA), C1 miniature circuit breaker (fcu= 300 A); Is not part of scope of supply number of digital inputs 1 number of digital inputs 1 number of digital outputs 2 e at Q-15 at 25 V rated value 3 A </td <td>• at 60 Hz</td> <td>110 250 V</td>	• at 60 Hz	110 250 V
voltage at AC at 50 Hz -15 % relative negative tolerance of the control supply voltage at AC at 60 Hz -15 % relative positive tolerance of the control supply voltage at AC at 60 Hz 10 % control supply voltage frequency 50 60 Hz relative negative tolerance of the control supply voltage frequency 10 % relative negative tolerance of the control supply voltage frequency 10 % relative positive tolerance of the control supply voltage frequency 10 % control supply current in standby mode rated value 30 mA holding current in bypass operation rated value 75 mA locked-rotor current at close of bypass contact 2.5 A maximum 12.2 A inrush current peak at application of control supply voltage 12.2 A design of the overvoltage protection Varistor 4 agG fuse (lcu=1 kA), 6 A quick-acting fuse (lcu=1 kA), C1 miniature circuit breaker (lcu= 300 A), Is not part of scope of supply Inputs/ Outputs 1 number of digital longuts 1 number of digital output version 2 normally-open contacts (NO) / 1 changeover contact (CO) number of alago gutputs 1 • at AC-15 at 250 V rated value <t< td=""><td></td><td>-15 %</td></t<>		-15 %
voltage at Åc at 60 Hz 10 % relative positive tolerance of the control supply voltage at AC at 60 Hz 10 % control supply voltage frequency 50 60 Hz relative negative tolerance of the control supply voltage frequency 10 % control supply current in standby mode rated value 30 mA holding current in bypass operation rated value 30 mA locked-rotor current at close of bypass contact 2.5 A maximum 2.2 A duration of inrush current peak at application of control supply voltage 12.2 A design of the overvoltage protection Varistor design of short-circuit protection for control circuit 4 gG fuse (icu=1 kA), 6 A quick-acting fuse (icu=1 kA), C1 miniature circuit breaker (icu= 600 A), C6 miniature circuit breaker (icu= 300 A); Is not part of scope of supply number of digital inputs 1 number of digital outputs 3 • not parameterizable 2 e at 0c-13 at 24 V rated value 3 A height 306 mm mounting position +/-10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm <td></td> <td>10 %</td>		10 %
voltage at AC at 60 Hz 50 60 Hz control supply voltage frequency 50 60 Hz relative negative tolerance of the control supply 10 % voltage frequency 10 % control supply current in standby mode rated value 30 mA holding current in standby mode rated value 30 mA locked-rotor current at close of bypass contact 2.5 A maximum 12.2 A duration of inrush current peak at application of control supply voltage 2.2 ms duration of inrush current peak at application of control circuit 2.2 ms design of the overvoltage protection Varistor design of short-circuit protection for control circuit 4 A gG fuse (Icu= 1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu= 300 A), C6 miniature circuit breaker (Icu= 300 A), Is not part of scope of supply number of ligital outputs 1 number of digital outputs 2 e not parameterizable 2 e at C-15 at 250 V rated value 3 A e at C-15 at 250 V rated value 3 A e at C-15 at 250 V rated value 3 A e at C-15 at 250 V rated value 3 A i A 10 rotation		-15 %
relative negative tolerance of the control supply voltage frequency -10 % relative positive tolerance of the control supply voltage frequency 10 % control supply current in standby mode rated value 30 mA holding current in bypass operation rated value 30 mA locked-rotor current at close of bypass contact 2.5 A maximum 12.2 A duration of inrush current peak at application of control supply voltage 2.2 ms design of the overvoltage protection Varistor design of short-circuit protection for control circuit Varistor number of digital inputs 1 number of digital inputs 1 number of digital outputs 3 e not parameterizable 2 digital output version 2 normally-open contacts (NO) / 1 changeover contact (CO) number of analog outputs 1 e at DC-13 at 24 V rated value 1 A Installation/ mounting / dimensions +/-10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing hold is possible and can be tilted forward or backward on vertical mounting surface softening with dide-by-side mounting		10 %
voltage frequency 10 % relative positive tolerance of the control supply 10 % control supply current in standby mode rated value 30 mA holding current in bypass operation rated value 30 mA locked-rotor current at close of bypass contact 2.5 A maximum 2.5 A inrush current peak at application of control supply voltage 12.2 A duration of inrush current peak at application of control supply voltage 2.2 ms design of the overvoltage protection Varistor design of short-circuit protection for control circuit 4 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply number of digital inputs 1 number of digital outputs 3 • not parameterizable 2 0 at DC-13 at 24 V rated value 1 A Installation/ mounting voltade value 3 A • at DC-13 at 24 V rated value 1 A Installation/ mounting voltade value 306 mm width 185 mm 0203 mm 203 mm	control supply voltage frequency	50 60 Hz
voltage frequency 30 mA holding current in standby mode rated value 30 mA holding current in bypass operation rated value 75 mA locked-rotor current at close of bypass contact maximum 2.5 A inrush current peak at application of control supply voltage maximum 12.2 A duration of inrush current peak at application of control supply voltage 2.2 ms design of the overvoltage protection Varistor design of short-circuit protection for control circuit 4 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu= 600 A), C6 miniature circuit breaker (Icu=300 A); Is not part of scope of supply number of digital inputs 1 number of digital protypts 3 • not parameterizable 2 1 2 normally-open contacts (NO) / 1 changeover contact (CO) number of analog outputs 1 • at AC-15 at 250 V rated value 3 A • at AC-15 at 250 V rated value 3 A • at AC-15 at 24 V rated value 1 A Installation/ mounting/ dimensions +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing 306 mm		-10 %
holding current in bypass operation rated value 75 mA locked-rotor current at close of bypass contact 2.5 A maximum 12.2 A duration of inrush current peak at application of control supply voltage 12.2 ms duration of short-circuit protection for control circuit 2.2 ms design of the overvoltage protection for control circuit Varistor design of short-circuit protection for control circuit 4 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply number of digital inputs 1 number of digital outputs 3 • not parameterizable 2 digital output version 2 normally-open contacts (NO) / 1 changeover contact (CO) number of analog outputs 1 • at AC-15 at 250 V rated value 3 A • at DC-13 at 24 V rated value 1 A Installation/ mounting / dimensions +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm digital output side-by-side mounting 203 mm		10 %
locked-rotor current at close of bypass contact maximum 2.5 A inrush current peak at application of control supply voltage maximum 12.2 A duration of inrush current peak at application of control supply voltage 2.2 ms design of the overvoltage protection 2.2 ms design of short-circuit protection for control circuit 4 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply Inputs/ Outputs 1 number of digital inputs 1 number of digital outputs 3 • not parameterizable 2 digital output version 2 normally-open contacts (NO) / 1 changeover contact (CO) number of analog outputs 1 • at AC-15 at 250 V rated value 3 A • at DC-13 at 24 V rated value 1 A Installation/ mounting dimensions +/-10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm duration 203 mm	control supply current in standby mode rated value	30 mA
maximum 12.2 A inrush current peak at application of control supply voltage 12.2 A duration of inrush current peak at application of control 2.2 ms supply voltage 2.2 ms design of the overvoltage protection Varistor design of short-circuit protection for control circuit 4 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply inputs/ Outputs 1 number of digital inputs 1 number of digital outputs 3 • not parameterizable 2 2 normally-open contacts (NO) / 1 changeover contact (CO) 1 switching capacity current of the relay outputs 3 A • at AC-15 at 250 V rated value 3 A • at DC-13 at 24 V rated value 1 A Installation/ mounting/ dimensions +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 203 mm	holding current in bypass operation rated value	75 mA
inrush current peak at application of control supply voltage 12.2 A duration of inrush current peak at application of control 2.2 ms supply voltage 2.2 ms design of the overvoltage protection Varistor design of short-circuit protection for control circuit 4 A gG fuse (lcu=1 kA), 6 A quick-acting fuse (lcu=1 kA), C1 miniature circuit breaker (lcu= 600 A), C6 miniature circuit breaker (lcu= 300 A); Is not part of scope of supply Inputs/ Outputs 1 number of digital inputs 1 number of digital outputs 3 • not parameterizable 2 digital output version 2 normally-open contacts (NO) / 1 changeover contact (CO) number of analog outputs 1 • at AC-15 at 250 V rated value 3 A • at DC-13 at 24 V rated value 1 A Installation/ mounting/ dimensions +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm vietth 203 mm	locked-rotor current at close of bypass contact	2.5 A
maximum 2.2 ms duration of inrush current peak at application of control supply voltage 2.2 ms design of the overvoltage protection Varistor design of short-circuit protection for control circuit 4 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply Inputs/ Outputs 1 number of digital inputs 1 number of digital outputs 3 • not parameterizable 2 digital output version 2 normally-open contacts (NO) / 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 DC-13 at 24 V rated value 1 A Installation/ mounting/ dimensions +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm depth 203 mm		
supply voltage Varistor design of the overvoltage protection Varistor design of short-circuit protection for control circuit 4 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply Inputs/ Outputs 1 number of digital inputs 1 number of digital outputs 3 • not parameterizable 2 digital output version 2 normally-open contacts (NO) / 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 DC-13 at 24 V rated value 1 A Installation/ mounting/ dimensions +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm depth 203 mm	maximum	12.2 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= 300 A), Is not part of scope of supply Inputs/ Outputs 1 number of digital inputs 1 number of digital outputs 3 • not parameterizable 2 digital output version 2 normally-open contacts (NO) / 1 changeover contact (CO) number of analog outputs 1 • at AC-15 at 250 V rated value 3 A • at DC-13 at 24 V rated value 1 A Installation/ mounting/ dimensions +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm depth 203 mm	supply voltage	
circuit breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply Inputs/ Outputs number of digital inputs 1 number of inputs for thermistor connection 0 number of digital outputs 3 • not parameterizable 2 digital output version 2 normally-open contacts (NO) / 1 changeover contact (CO) number of analog outputs 1 switching capacity current of the relay outputs 1 • at AC-15 at 250 V rated value 3 A • at DC-13 at 24 V rated value 1 A Installation/ mounting/ dimensions +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm depth 203 mm	design of the overvoltage protection	
number of digital inputs 1 number of inputs for thermistor connection 0 number of digital outputs 3 • not parameterizable 2 digital output version 2 normally-open contacts (NO) / 1 changeover contact (CO) number of analog outputs 1 switching capacity current of the relay outputs 1 • at AC-15 at 250 V rated value 3 A • at DC-13 at 24 V rated value 1 A Installation/ mounting/ dimensions +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm depth 203 mm	design of short-circuit protection for control circuit	circuit breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= 300 A); Is
number of inputs for thermistor connection 0 number of digital outputs 3 • not parameterizable 2 digital output version 2 normally-open contacts (NO) / 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 DC-13 at 24 V rated value 1 A Installation/ mounting/ dimensions +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm depth 203 mm	Inputs/ Outputs	
number of inputs for thermistor connection 0 number of digital outputs 3 • not parameterizable 2 digital output version 2 normally-open contacts (NO) / 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 DC-13 at 24 V rated value 1 A Installation/ mounting/ dimensions +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm depth 203 mm	number of digital inputs	1
number of digital outputs 3 • not parameterizable 2 digital output version 2 normally-open contacts (NO) / 1 changeover contact (CO) number of analog outputs 1 switching capacity current of the relay outputs 1 • at AC-15 at 250 V rated value 3 A • at DC-13 at 24 V rated value 1 A Installation/ mounting/ dimensions +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm depth 203 mm		
• not parameterizable 2 digital output version 2 normally-open contacts (NO) / 1 changeover contact (CO) number of analog outputs 1 switching capacity current of the relay outputs • at AC-15 at 250 V rated value • at DC-13 at 24 V rated value 1 A Installation/ mounting/ dimensions +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm depth 203 mm		
digital output version 2 normally-open contacts (NO) / 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 DC-13 at 24 V rated value 1 A Installation/ mounting/ dimensions +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm depth 203 mm		
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 DC-13 at 24 V rated value 1 A Installation/ mounting/ dimensions +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm depth 203 mm		
switching capacity current of the relay outputs 3 A • at AC-15 at 250 V rated value 3 A • at DC-13 at 24 V rated value 1 A Installation/ mounting/ dimensions +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm depth 203 mm		
 at AC-15 at 250 V rated value at DC-13 at 24 V rated value 1 A Installation/ mounting/ dimensions mounting position +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm depth 203 mm 		
• at DC-13 at 24 V rated value1 AInstallation/ mounting/ dimensionsmounting position+/- 10° rotation possible and can be tilted forward or backward on vertical mounting surfacefastening methodscrew fixingheight306 mmwidth185 mmdepth203 mmrequired spacing with side-by-side mounting		3.4
Installation/ mounting/ dimensions mounting position +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm depth 203 mm required spacing with side-by-side mounting		
mounting position +/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface fastening method screw fixing height 306 mm width 185 mm depth 203 mm required spacing with side-by-side mounting		
required spacing with side-by-side mounting vertical mounting surface vertical mounting surface screw fixing screw fixing 306 mm 306 mm 185 mm 203 mm 203 mm		$1/10^{\circ}$ rotation possible and can be tilted forward as becaused as
height 306 mm width 185 mm depth 203 mm required spacing with side-by-side mounting 203 mm		vertical mounting surface
width 185 mm depth 203 mm required spacing with side-by-side mounting		
depth 203 mm required spacing with side-by-side mounting		
required spacing with side-by-side mounting		
	· ·	203 mm
a fanuarda	required spacing with side-by-side mounting	
• IO WATUS	 forwards 	10 mm
• backwards 0 mm	 backwards 	0 mm
• upwards 100 mm	• upwards	100 mm

downwards	75 mm
• at the side	5 mm
weight without packaging	5.2 kg
Connections/ Terminals	
type of electrical connection	
 for main current circuit 	box terminal
for control circuit	screw-type terminals
width of connection bar maximum	25 mm
type of connectable conductor cross-sections	
• for main contacts for box terminal using the front clamping point solid	1x (2.5 16 mm²)
 for main contacts for box terminal using the front clamping point finely stranded with core end processing 	1x (2.5 50 mm²)
 for main contacts for box terminal using the front clamping point stranded 	1x (10 70 mm²)
 at AWG cables for main contacts for box terminal using the front clamping point 	1x (10 2/0)
for main contacts for box terminal using the back clamping point solid	1x (2.5 16 mm ²)
 at AWG cables for main contacts for box terminal using the back clamping point for main contacts for box terminal using both 	1x (10 2/0)
 for main contacts for box terminal using both clamping points solid 	2x (2.5 16 mm²)
 for main contacts for box terminal using both clamping points finely stranded with core end processing 	2x (2.5 35 mm²)
 for main contacts for box terminal using both clamping points stranded 	2x (6 16 mm²), 2x (10 50 mm²)
 for main contacts for box terminal using the back clamping point finely stranded with core end processing 	1x (2.5 50 mm²)
 for main contacts for box terminal using the back clamping point stranded 	1x (10 70 mm²)
type of connectable conductor cross-sections	
 for control circuit solid 	1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)
 for control circuit finely stranded with core end processing 	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
at AWG cables for control circuit solid	1x (20 12), 2x (20 14)
wire length	
 between soft starter and motor maximum 	800 m
 at the digital inputs at AC maximum 	100 m
tightening torque	
 for main contacts with screw-type terminals 	4.5 6 N·m
 for auxiliary and control contacts with screw-type terminals 	0.8 1.2 N·m
tightening torque [lbf·in]	
 for main contacts with screw-type terminals 	40 53 lbf·in
 for auxiliary and control contacts with screw-type 	7 10.3 lbf·in
terminals	
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	
during operation acc. to IEC 60721	3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
during storage acc. to IEC 60721	1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4
during transport acc. to IEC 60721	2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)
EMC emitted interference	acc. to IEC 60947-4-2: Class A

Communication/ Protocol	
communication module is supported	
PROFINET standard	Yes
EtherNet/IP	Yes
Modbus RTU	Yes
Modbus TCP	Yes
PROFIBUS	Yes
UL/CSA ratings	
manufacturer's article number	
 of circuit breaker 	
 — usable for Standard Faults at 460/480 V according to UL 	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 90 A; Iq = 5 kA
 — usable for High Faults at 460/480 V according to UL 	Siemens type: 3VA51, max. 60 A; lq max = 65 kA
 — usable for Standard Faults at 460/480 V at inside-delta circuit according to UL 	Siemens type: 3VA51, max. 90 A; lq = 5 kA
 — usable for High Faults at 460/480 V at inside- delta circuit according to UL 	Siemens type: 3VA51, max. 60 A; lq max = 65 kA
 — usable for Standard Faults at 575/600 V according to UL 	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 90 A; Iq = 5 kA
 usable for Standard Faults at 575/600 V at inside-delta circuit according to UL 	Siemens type: 3VA51, max. 90 A; lq = 5 kA
• of the fuse	
 usable for Standard Faults up to 575/600 V according to UL 	Type: Class RK5 / K5, max. 175 A; lq = 5 kA
 — usable for High Faults up to 575/600 V according to UL 	Type: Class J / L, max. 175 A; lq = 100 kA
 — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class RK5 / K5, max. 175 A; lq = 5 kA
 usable for High Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 175 A; Iq = 100 kA
operating power [hp] for 3-phase motors	
• at 200/208 V at 50 °C rated value	10 hp
• at 220/230 V at 50 °C rated value	10 hp
• at 460/480 V at 50 °C rated value	30 hp
 at 200/208 V at inside-delta circuit at 50 °C rated value 	20 hp
 at 220/230 V at inside-delta circuit at 50 °C rated value 	25 hp
at 460/480 V at inside-delta circuit at 50 °C rated value	50 hp
contact rating of auxiliary contacts according to UL Safety related data	R300-B300
protection class IP on the front acc. to IEC 60529 touch protection on the front acc. to IEC 60529	IP00; IP20 with cover
· · · · · · · · · · · · · · · · · · ·	finger-safe, for vertical contact from the front with cover in accordance with IEC 60947-4-2
electromagnetic compatibility Certificates/ approvals	
General Product Approval	EMC Declaration of Conformity
	ERE $\sum_{RCM} CEEG-Konf.$
Test Certificates Marine / Shinning	

Test Certificates

Marine / Shipping











other

Confirmation

Further information

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

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RW5224-1AC14

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5224-1AC14

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5224-1AC14

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5224-1AC14&lang=en

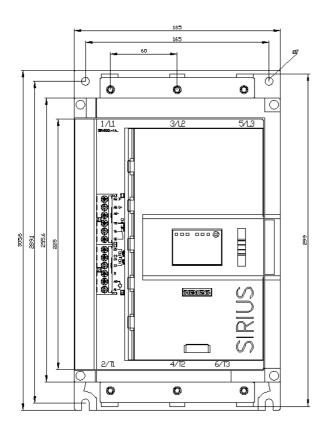
Characteristic: Tripping characteristics, I²t, Let-through current

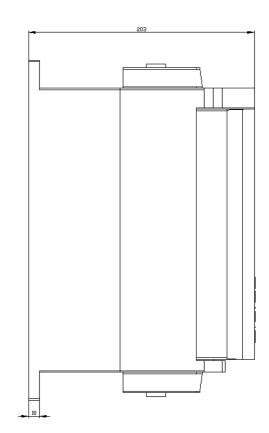
https://support.industry.siemens.com/cs/ww/en/ps/3RW5224-1AC14/char

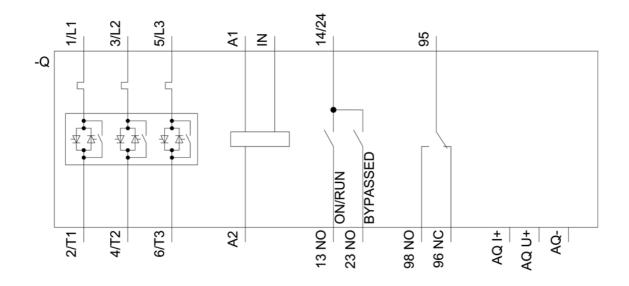
Characteristic: Installation altitude

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5224-1AC14&objecttype=14&gridview=view1 Simulation Tool for Soft Starters (STS)

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







last modified:

8/10/2021 🖸