SIEMENS

3RW5234-2AC05 **Data sheet**



SIRIUS soft starter 200-600 V 113 A, 24 V AC/DC spring-type 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 	3RW5980-0HS00
 of high feature HMI module usable 	3RW5980-0HF00
 of communication module PROFINET standard usable 	3RW5980-0CS00
 of communication module PROFIBUS usable 	3RW5980-0CP00
 of communication module Modbus TCP usable 	3RW5980-0CT00
 of communication module Modbus RTU usable 	3RW5980-0CR00
 of communication module Ethernet/IP 	3RW5980-0CE00
 of circuit breaker usable at 400 V 	3VA2216-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 400 V at inside-delta circuit 	3VA2220-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of the gG fuse usable up to 690 V 	3NA3244-6; Type of coordination 1, Iq = 65 kA
 of the gG fuse usable at inside-delta circuit up to 500 V 	3NA3244-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	3NE1225-0; Type of coordination 2, Iq = 65 kA
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE3332-0B; Type of coordination 2, Iq = 65 kA
General 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	

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	1 800 V
service factor	1
surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	ONV
between main and auxiliary circuit	600 V
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	AC 53a
reference code acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	15.02.2018 00:00:00
product function	10.02.2010 00.00.00
• 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
, and a second	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	113 A
at 50 °C rated value	101 A
at 60 °C rated value	89 A
operational current at inside-delta circuit	
• at 40 °C rated value	196 A
• at 50 °C rated value	175 A
at 60 °C rated value	154 A
operating voltage	
rated value	200 600 V
at inside-delta circuit rated value	200 600 V
relative negative tolerance of the operating voltage	-15 %
relative positive tolerance of the operating voltage	10 %
relative negative tolerance of the operating voltage at inside-delta circuit	-15 %
relative positive tolerance of the operating voltage at inside-delta circuit	10 %
operating power for 3-phase motors	

• at 230 V at 40 °C rated value	30 kW
at 230 V at 40 C rated value at 230 V at inside-delta circuit at 40 °C rated value	55 kW
• at 400 V at 40 °C rated value	55 kW
at 400 V at inside-delta circuit at 40 °C rated value	110 kW
at 500 V at 40 °C rated value at 500 V at 40 °C rated value	75 kW
at 500 V at 40 °C rated value at 500 V at inside-delta circuit at 40 °C rated value	132 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	53 A
at rotary coding switch on switch position 2	57 A
 at rotary coding switch on switch position 3 	61 A
 at rotary coding switch on switch position 4 	65 A
 at rotary coding switch on switch position 5 	69 A
 at rotary coding switch on switch position 6 	73 A
 at rotary coding switch on switch position 7 	77 A
 at rotary coding switch on switch position 8 	81 A
 at rotary coding switch on switch position 9 	85 A
 at rotary coding switch on switch position 10 	89 A
 at rotary coding switch on switch position 11 	93 A
 at rotary coding switch on switch position 12 	97 A
 at rotary coding switch on switch position 13 	101 A
 at rotary coding switch on switch position 14 	105 A
 at rotary coding switch on switch position 15 	109 A
 at rotary coding switch on switch position 16 	113 A
• minimum	53 A
adjustable motor current	
 for inside-delta circuit at rotary coding switch on switch position 1 	91.8 A
 for inside-delta circuit at rotary coding switch on switch position 2 	98.7 A
 for inside-delta circuit at rotary coding switch on switch position 3 	106 A
 for inside-delta circuit at rotary coding switch on switch position 4 	113 A
 for inside-delta circuit at rotary coding switch on switch position 5 	120 A
 for inside-delta circuit at rotary coding switch on switch position 6 	126 A
 for inside-delta circuit at rotary coding switch on switch position 7 	133 A
for inside-delta circuit at rotary coding switch on switch position 8 for inside delta circuit at rotary coding switch on	140 A
for inside-delta circuit at rotary coding switch on switch position 9 for inside delta circuit at rotary coding switch on switch on the circuit at rotary coding switch at rotary coding switch at rotary coding switch at rotary coding switch at	147 A
for inside-delta circuit at rotary coding switch on switch position 10 for inside delta circuit at rotary coding switch on	154 A
for inside-delta circuit at rotary coding switch on switch position 11	161 A
 for inside-delta circuit at rotary coding switch on switch position 12 	168 A
 for inside-delta circuit at rotary coding switch on switch position 13 	175 A
for inside-delta circuit at rotary coding switch on switch position 14	182 A
 for inside-delta circuit at rotary coding switch on switch position 15 	189 A
 for inside-delta circuit at rotary coding switch on switch position 16 	196 A
 at inside-delta circuit minimum 	91.8 A

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minimum load [%]	15 %; Relative to smallest settable le
power loss [W] for rated value of the current at AC	40.14
• at 40 °C after startup	46 W
• at 50 °C after startup	42 W
at 60 °C after startup	39 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup	1 512 W
 at 50 °C during startup 	1 291 W
at 60 °C during startup	1 086 W
Control circuit/ Control	
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
at 50 Hz rated value	24 V
at 60 Hz rated value	24 V
relative negative tolerance of the control supply voltage at AC at 50 Hz	-20 %
relative positive tolerance of the control supply voltage at AC at 50 Hz	20 %
relative negative tolerance of the control supply voltage at AC at 60 Hz	-20 %
relative positive tolerance of the control supply voltage at AC at 60 Hz	20 %
control supply voltage frequency	50 60 Hz
relative negative tolerance of the control supply voltage frequency	-10 %
relative positive tolerance of the control supply voltage frequency	10 %
control supply voltage	
at DC rated value	24 V
relative negative tolerance of the control supply voltage at DC	-20 %
relative positive tolerance of the control supply voltage at DC	20 %
control supply current in standby mode rated value	160 mA
holding current in bypass operation rated value	380 mA
locked-rotor current at close of bypass contact maximum	7.6 A
inrush current peak at application of control supply voltage maximum	3.3 A
duration of inrush current peak at application of control supply voltage	12.1 ms
design of the overvoltage protection	Varistor
design of short-circuit protection for control circuit	4 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply
Inputs/ Outputs	
number of digital inputs	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	
• at AC-15 at 250 V rated value	3 A
at DC-13 at 24 V rated value	1 A
Installation/ mounting/ dimensions	
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
fastening method	screw fixing
height	306 mm
width	185 mm

donth	203 mm
depth required spacing with side-by-side mounting	200 11111
forwards	10 mm
backwards	0 mm
• upwards	100 mm
downwards	75 mm
at the side	5 mm
weight without packaging	6.6 kg
Connections/ Terminals	5.5 hg
type of electrical connection	
• for main current circuit	busbar connection
for control circuit	spring-loaded terminals
width of connection bar maximum	25 mm
type of connectable conductor cross-sections	25 11111
for DIN cable lug for main contacts stranded	2x (16 95 mm²)
for DIN cable lug for main contacts finely stranded	2x (25 120 mm²)
type of connectable conductor cross-sections	ZA (20 120 Hilli)
for control circuit solid	2x (0.25 1.5 mm²)
for control circuit finely stranded with core end	2x (0.25 1.5 mm²)
processing	
 at AWG cables for control circuit solid 	2x (24 16)
 at AWG cables for control circuit finely stranded with 	2x (24 16)
core end processing	
wire length	
between soft starter and motor maximum	800 m
at the digital inputs at AC maximum	100 m
at the digital inputs at DC maximum	1 000 m
tightening torque	
for main contacts with screw-type terminals	10 14 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	89 124 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	Siemens type: 3VA52, max. 250 A; Iq = 10 kA
according to UL	

- usable for High Faults at 460/480 V according Siemens type: 3VA52, max. 250 A; Iq max = 65 kA to UL - usable for Standard Faults at 460/480 V at Siemens type: 3VA52, max. 250 A; Iq = 10 kA inside-delta circuit according to UL - usable for High Faults at 460/480 V at inside-Siemens type: 3VA52, max. 250 A; Iq max = 65 kA delta circuit according to UL - usable for Standard Faults at 575/600 V Siemens type: 3VA52, max. 250 A; Iq = 10 kA according to UL - usable for Standard Faults at 575/600 V at Siemens type: 3VA52, max. 250 A; Iq = 10 kA inside-delta circuit according to UL • of the fuse — usable for Standard Faults up to 575/600 V Type: Class RK5 / K5, max. 350 A; Iq = 10 kA according to UL - usable for High Faults up to 575/600 V Type: Class J / L, max. 350 A; Iq = 100 kA according to UL - usable for Standard Faults at inside-delta Type: Class RK5 / K5, max. 350 A; Iq = 10 kA circuit up to 575/600 V according to UL - usable for High Faults at inside-delta circuit up Type: Class J / L, max. 350 A; Iq = 100 kA to 575/600 V according to UL operating power [hp] for 3-phase motors 30 hp • at 200/208 V at 50 °C rated value • at 220/230 V at 50 °C rated value 30 hp • at 460/480 V at 50 °C rated value 75 hp • at 575/600 V at 50 °C rated value 100 hp • at 200/208 V at inside-delta circuit at 50 °C rated 50 hp value • at 220/230 V at inside-delta circuit at 50 °C rated 60 hp value • at 460/480 V at inside-delta circuit at 50 °C rated 125 hp • at 575/600 V at inside-delta circuit at 50 °C rated 150 hp value contact rating of auxiliary contacts according to UL R300-B300 Safety related data protection class IP on the front acc. to IEC 60529 IP00; IP20 with cover touch protection on the front acc. to IEC 60529 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













Test Certificates

Marine / Shipping

Type Test Certificates/Test Report











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=3RW5234-2AC05

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5234-2AC05

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5234-2AC05

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5234-2AC05&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

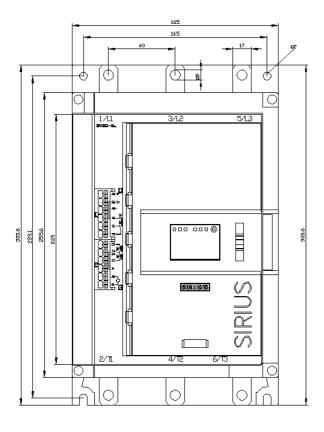
https://support.industry.siemens.com/cs/ww/en/ps/3RW5234-2AC05/char

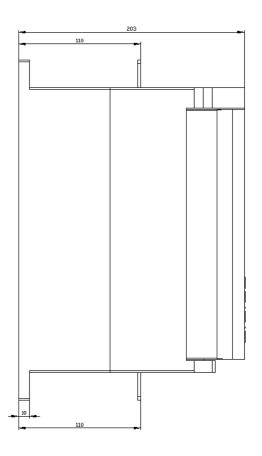
Characteristic: Installation altitude

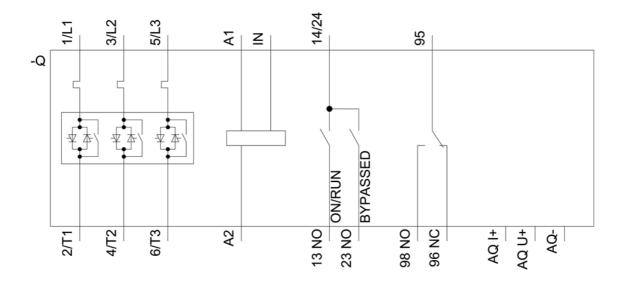
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5234-2AC05&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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