SIEMENS

3RW5235-6AC14 **Data sheet**



SIRIUS soft starter 200-480 V 143 A, 110-250 V AC Screw terminals Analog output

	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 	3VA2220-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 400 V at inside-delta circuit 	3VA2325-7MN32-0AA0; 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 	3NE1227-0: Type of coordination 2, Iq = 65 kA
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE3334-0B; 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	
HMI-High Feature	No
 is supported HMI-Standard 	Yes
• is supported 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

	400
• 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	
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
product function	
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
	Yes
manual RESET remete reset	
• 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 	143 A
• at 50 °C rated value	128 A
at 60 °C rated value	118 A
operational current at inside-delta circuit	
at 40 °C rated value	248 A
• at 50 °C rated value	222 A
at 60 °C rated value	204 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	37 kW
at 230 V at 40 C rated value at 230 V at inside-delta circuit at 40 °C rated value	75 kW
€ at 250 v at inside-delta circuit at 40 °C fated value	/ J KVV
 at 400 V at 40 °C rated value 	75 kW

• at 400 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 	68 A
 at rotary coding switch on switch position 2 	73 A
 at rotary coding switch on switch position 3 	78 A
 at rotary coding switch on switch position 4 	83 A
 at rotary coding switch on switch position 5 	88 A
 at rotary coding switch on switch position 6 	93 A
 at rotary coding switch on switch position 7 	98 A
 at rotary coding switch on switch position 8 	103 A
 at rotary coding switch on switch position 9 	108 A
 at rotary coding switch on switch position 10 	113 A
 at rotary coding switch on switch position 11 	118 A
 at rotary coding switch on switch position 12 	123 A
 at rotary coding switch on switch position 13 	128 A
 at rotary coding switch on switch position 14 	133 A
 at rotary coding switch on switch position 15 	138 A
 at rotary coding switch on switch position 16 	143 A
minimum	68 A
adjustable motor current	
 for inside-delta circuit at rotary coding switch on switch position 1 	118 A
 for inside-delta circuit at rotary coding switch on switch position 2 	126 A
 for inside-delta circuit at rotary coding switch on switch position 3 	135 A
 for inside-delta circuit at rotary coding switch on switch position 4 	144 A
 for inside-delta circuit at rotary coding switch on switch position 5 	152 A
 for inside-delta circuit at rotary coding switch on switch position 6 	161 A
 for inside-delta circuit at rotary coding switch on switch position 7 	170 A
for inside-delta circuit at rotary coding switch on switch position 8 for inside delta circuit at rotary coding switch as	178 A
 for inside-delta circuit at rotary coding switch on switch position 9 for inside-delta circuit at rotary coding switch on 	187 A 196 A
switch position 10 • for inside-delta circuit at rotary coding switch on	204 A
switch position 11 • for inside-delta circuit at rotary coding switch on	213 A
switch position 12 • for inside-delta circuit at rotary coding switch on	222 A
switch position 13for inside-delta circuit at rotary coding switch on	230 A
switch position 14for inside-delta circuit at rotary coding switch on	239 A
switch position 15 for inside-delta circuit at rotary coding switch on switch position 16	248 A
switch position 16 • at inside-delta circuit minimum	118 A
minimum load [%]	15 %; Relative to smallest settable le
power loss [W] for rated value of the current at AC	10 70, Notative to officialist settable to
• at 40 °C after startup	55 W
at 50 °C after startup	50 W
at 60 °C after startup	47 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup	2 127 W

-4 FO 9O during 1 1	4.007.W
• at 50 °C during startup	1 807 W
at 60 °C during startup	1 605 W
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
● 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	
relative positive 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 positive tolerance of the control supply voltage at AC at 60 Hz	10 %
control supply voltage frequency	50 60 Hz
relative negative tolerance of the control supply voltage frequency	-10 %
relative positive tolerance of the control supply voltage frequency	10 %
control supply current in standby mode rated value	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
Inputs/ Outputs	
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	
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
depth	203 mm
required spacing with side-by-side mounting	
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	
type of electrical connection	
for main current circuit	busbar connection
for control circuit	screw-type terminals
width of connection bar maximum	25 mm
type of connectable conductor cross-sections	
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	
 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 	10 14 N·m
 for auxiliary and control contacts with screw-type 	0.8 1.2 N·m
terminals	
tightening torque [lbf·in]	00 404 ()
for main contacts with screw-type terminals	89 124 lbf·in
 for auxiliary and control contacts with screw-type terminals 	7 10.3 lbf·in
Ambient conditions	
installation altitude at height above sea level maximum	5 000 m; Derating as of 1000 m, see catalog
ambient temperature	o ooo iii, beratiiig as or rooo iii, see eatalog
during operation	-25 +60 °C; Please observe derating at temperatures of 40 °C or
- asing operation	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	400. to 120 00047 4 2. Olddo 71
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: 3VA52, max. 250 A; Iq = 10 kA
usable for High Faults at 460/480 V according to UL	Siemens type: 3VA52, max. 250 A; Iq max = 65 kA
usable for Standard Faults at 460/480 V at inside-delta circuit according to UL	Siemens type: 3VA52, max. 250 A; Iq = 10 kA
usable for High Faults at 460/480 V at inside- delta circuit according to UL	Siemens type: 3VA52, max. 250 A; Iq max = 65 kA
usable for Standard Faults at 575/600 V according to UL	Siemens type: 3VA52, max. 250 A; lq = 10 kA
 usable for Standard Faults at 575/600 V at inside-delta circuit according to UL 	Siemens type: 3VA52, max. 250 A; Iq = 10 kA
 of the fuse usable for Standard Faults up to 575/600 V according to UL 	Type: Class RK5 / K5, max. 350 A; Iq = 10 kA
usable for High Faults up to 575/600 V according to UL	Type: Class J / L, max. 350 A; Iq = 100 kA
 usable for Standard Faults at inside-delta 	Type: Class RK5 / K5, max. 350 A; lq = 10 kA
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. 350 A; Iq = 100 kA
operating power [hp] for 3-phase motors	
operating power [hp] for 3-phase motors • at 200/208 V at 50 °C rated value	40 hp

 at 220/230 V at 50 °C rated value 	40 hp
 at 460/480 V at 50 °C rated value 	100 hp
 at 200/208 V at inside-delta circuit at 50 °C rated value 	75 hp
 at 220/230 V at inside-delta circuit at 50 °C rated value 	75 hp
 at 460/480 V at inside-delta circuit at 50 °C rated value 	150 hp
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
electromagnetic compatibility	in accordance with IEC 60947-4-2
Certificates/ approvals	

Certificates/ approvais

General Product Approval

EMC

Declaration of Conformity











UK Declaration of Conformity

Declaration of Conformity

Test Certificates

Marine / Shipping



Type Test Certificates/Test Report









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=3RW5235-6AC14

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5235-6AC14

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5235-6AC14

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5235-6AC14&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

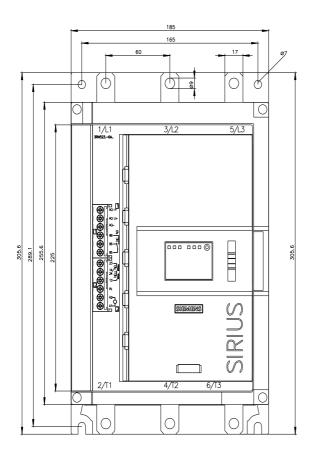
https://support.industry.siemens.com/cs/ww/en/ps/3RW5235-6AC14/char

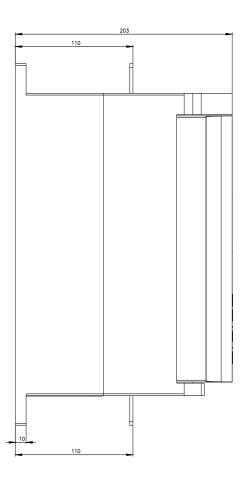
Characteristic: Installation altitude

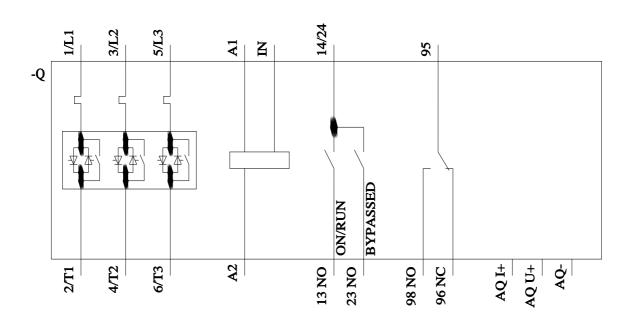
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5235-6AC14&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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