SIEMENS

product brand name

Data sheet 3RW5214-3TC15

SIRIUS



SIRIUS soft starter 200-600 V 18 A, 110-250 V AC spring-type terminals Thermistor input

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 	3RV2032-4DA10; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V 	3RV2032-4DA10; Type of coordination 1, Iq = 15 kA, CLASS 10
 of circuit breaker usable at 400 V at inside-delta circuit 	3RV2032-4EA10: Type of coordination 1. Iq = 65 kA. CLASS 10
 of circuit breaker usable at 500 V at inside-delta circuit 	3RV2032-4EA10; Type of coordination 1, Iq = 15 kA, CLASS 10
 of the gG fuse usable up to 690 V 	3NA3820-6; Type of coordination 1, Iq = 65 kA
 of the gG fuse usable at inside-delta circuit up to 500 V 	3NA3820-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	3NE1802-0; Type of coordination 2, Iq = 65 kA
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE8020-1; 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	2
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	400
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	1 600 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 00:00:00
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; Full motor protection (thermistor motor protection and electronic
	motor overload protection)
 evaluation of thermistor motor protection 	Yes; Type A PTC or Klixon / Thermoclick
 inside-delta circuit 	Yes
• auto-RESET	Yes
manual RESET	Yes
 remote reset 	Yes; 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	No
Power Electronics	
operational current	40.4
• at 40 °C rated value	18 A
• at 50 °C rated value	16 A
at 60 °C rated value	14 A
operational current at inside-delta circuit	24.5.4
• at 40 °C rated value	31.5 A
• at 50 °C rated value	28 A
at 60 °C rated value	23.9 A
operating voltage	200 600 1/
rated value at incide delta circuit rated value	200 600 V
at inside-delta circuit rated value relative regative telegrance of the energting veltage.	200 600 V 15 %
relative negative tolerance of the operating voltage relative positive tolerance of the operating voltage	10 %
relative positive tolerance of the operating voltage	-15 %
inside-delta circuit	-10 /0

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 	4 kW
• at 230 V at inside-delta circuit at 40 °C rated value	7.5 kW
 at 400 V at 40 °C rated value 	7.5 kW
• at 400 V at inside-delta circuit at 40 °C rated value	15 kW
• at 500 V at 40 °C rated value	11 kW
• at 500 V at inside-delta circuit at 40 °C rated value	18.5 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 	7.5 A
 at rotary coding switch on switch position 2 	8.2 A
 at rotary coding switch on switch position 3 	8.9 A
 at rotary coding switch on switch position 4 	9.6 A
 at rotary coding switch on switch position 5 	10.3 A
at rotary coding switch on switch position 6	11 A
at rotary coding switch on switch position 7	11.7 A
at rotary coding switch on switch position 8	12.4 A
 at rotary coding switch on switch position 9 	13.1 A
 at rotary coding switch on switch position 10 	13.8 A
at rotary coding switch on switch position 11	14.5 A
 at rotary coding switch on switch position 12 	15.2 A
 at rotary coding switch on switch position 13 	15.9 A
at rotary coding switch on switch position 14	16.6 A
at rotary coding switch on switch position 15	17.3 A
at rotary coding switch on switch position 16	18 A
• minimum	7.5 A
adjustable motor current	
 for inside-delta circuit at rotary coding switch on switch position 1 	13 A
 for inside-delta circuit at rotary coding switch on switch position 2 	14.2 A
 for inside-delta circuit at rotary coding switch on switch position 3 	15.4 A
 for inside-delta circuit at rotary coding switch on switch position 4 	16.6 A
 for inside-delta circuit at rotary coding switch on switch position 5 	17.8 A
• for inside-delta circuit at rotary coding switch on switch position 6	19.1 A
 for inside-delta circuit at rotary coding switch on switch position 7 	20.3 A
for inside-delta circuit at rotary coding switch on switch position 8 for inside delta circuit at rotary coding switch on	21.5 A
for inside-delta circuit at rotary coding switch on switch position 9 for inside delta circuit at rotary coding switch on	22.7 A 23.9 A
 for inside-delta circuit at rotary coding switch on switch position 10 for inside-delta circuit at rotary coding switch on 	25.1 A
switch position 11 • for inside-delta circuit at rotary coding switch on	26.3 A
switch position 12 • for inside-delta circuit at rotary coding switch on	27.5 A
switch position 13 • for inside-delta circuit at rotary coding switch on	28.8 A
switch position 14 • for inside-delta circuit at rotary coding switch on	30 A
switch position 15	

for inside-delta circuit at rotary coding switch on	31.2 A
switch position 16	
at inside-delta circuit minimum	13 A
minimum load [%]	15 %; Relative to smallest settable le
power loss [W] for rated value of the current at AC	
 at 40 °C after startup 	17 W
 at 50 °C after startup 	17 W
at 60 °C after startup	16 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup	276 W
	241 W
• at 50 °C during startup	
at 60 °C during startup	200 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	-15 %
voltage at AC at 60 Hz	
relative positive tolerance of the control supply	10 %
voltage at AC at 60 Hz	
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
	0.17 A
locked-rotor current at close of bypass contact maximum	
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 inputs for thermistor connection	1; Type A PTC or Klixon / Thermoclick
number of digital outputs	3
• not parameterizable	2
digital output version	2 normally-open contacts (NO) / 1 changeover contact (CO)
number of analog outputs	0
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	+/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface
fastening method	screw fixing
height	275 mm
width	170 mm
depth	152 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	2.1 kg
Connections/ Terminals	
type of electrical connection	
for main current circuit	screw-type terminals
• for control circuit	spring-loaded terminals
wire length for thermistor connection	
• with conductor cross-section = 0.5 mm² maximum	50 m
with conductor cross-section = 1.5 mm² maximum	150 m
with conductor cross-section = 2.5 mm² maximum	250 m
type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (1.0 2.5 mm²), 2x (2.5 10 mm²)
— finely stranded with core end processing	2x (1.0 2.5 mm²), 2x (2.5 6.0 mm²)
at AWG cables for main current circuit solid	2x (16 12), 2x (14 8)
type of connectable conductor cross-sections	
 for control circuit solid 	2x (0.25 1.5 mm²)
 for control circuit finely stranded with core end processing 	2x (0.25 1.5 mm²)
 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
tightening torque	
 for main contacts with screw-type terminals 	2 2.5 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 	18 22 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	
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

— usable for High Faults at 460/480 V according to UI

— usable for Standard Faults at 460/480 V at inside-delta circuit according to UL

— usable for High Faults at 460/480 V at inside-delta circuit according to UL $\,$

— usable for Standard Faults at 575/600 V according to UL

— usable for Standard Faults at 575/600 V at inside-delta circuit according to UL

of the fuse

— usable for Standard Faults up to 575/600 V according to UL

— usable for High Faults up to 575/600 V according to 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

Siemens type: 3RV2742, max. 60 A or 3VA51, max. 60 A; Iq = 5 kA

Siemens type: 3RV2742, max. 30 A or 3VA51, max. 35 A; Iq max = 65

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Siemens type: 3RV2742, max. 60 A or 3VA51, max. 60 A; Iq = 5 kA

Siemens type: 3VA51, max. 35 A; Iq max = 65 kA

Siemens type: 3RV2742, max. 60 A or 3VA51, max. 60 A; Iq = 5 kA

Siemens type: 3RV2742, max. 60 A or 3VA51, max. 60 A; Iq = 5 kA

Type: Class RK5 / K5, max. 70 A; Iq = 5 kA

Type: Class J / L, max. 70 A; Iq = 100 kA

Type: Class RK5 / K5, max. 70 A; Iq = 5 kA

Type: Class J / L, max. 70 A; Iq = 100 kA

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 575/600 V at 50 °C rated value

 \bullet at 200/208 V at inside-delta circuit at 50 $^{\circ}\text{C}$ rated value

• at 220/230 V at inside-delta circuit at 50 °C rated value

 \bullet at 460/480 V at inside-delta circuit at 50 $^{\circ}\text{C}$ rated value

• at 575/600 V at inside-delta circuit at 50 °C rated value

3 hp

5 hp

10 hp

10 hp 7.5 hp

7.5 hp

20 hp

25 hp

contact rating of auxiliary contacts according to UL

R300-B300

Safety related data

protection class IP on the front acc. to IEC 60529 touch protection on the front acc. to IEC 60529

electromagnetic compatibility

IP20

finger-safe, for vertical contact from the front

in accordance with IEC 60947-4-2

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=3RW5214-3TC15

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5214-3TC15

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5214-3TC15

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax de.aspx?mlfb=3RW5214-3TC15&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

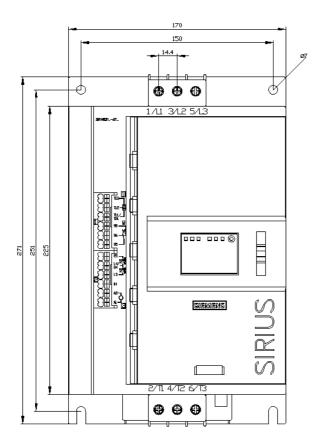
https://support.industry.siemens.com/cs/ww/en/ps/3RW5214-3TC15/char

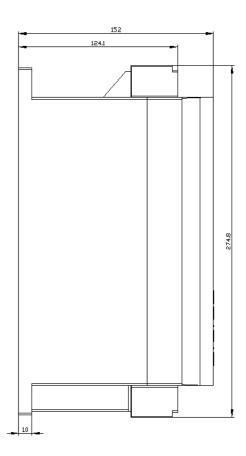
Characteristic: Installation altitude

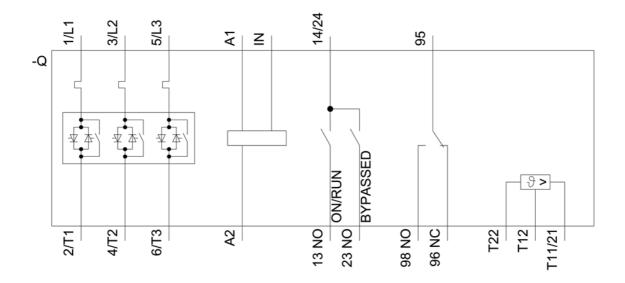
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5214-3TC15&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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