SIEMENS

product brand name

Data sheet 3RW5216-1TC15

SIRIUS



SIRIUS soft starter 200-600 V 32 A, 110-250 V AC Screw terminals Thermistor input

product brand name	Silvios
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 	3RV2032-4VA10; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V 	3RV2032-4VA10; Type of coordination 1, Iq = 10 kA, CLASS 10
• of circuit breaker usable at 400 V at inside-delta circuit	3RV2032-4JA10; Type of coordination 1, Iq = 65 kA, CLASS 10
• of circuit breaker usable at 500 V at inside-delta circuit	3RV2032-4JA10; 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	3NA3824-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	3NE1818-0; Type of coordination 2, Iq = 65 kA
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE8022-1; Type of coordination 2, Iq = 65 kA
eneral technical data	
starting voltage [%]	30 100 %
stopping voltage [%]	50 %; non-adjustable
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
product feature integrated bypass contact system number of controlled phases	Yes 3
· · · · · · · · · · · · · · · · · · ·	
number of controlled phases	3
number of controlled phases trip class	3

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	1 000 V
surge voltage resistance rated value	6 KV
maximum permissible voltage for protective separation	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 according to IEC 60947-4-2	AC 53a
reference code according to IEC 81346-2	Q
	02/15/2018
Substance Prohibitance (Date)	02/13/2010
product function	Yes
• ramp-up (soft starting)	Yes
• ramp-down (soft stop)	Yes
Soft Torque adjustable current limitation	Yes
adjustable current limitation	
pump ramp down intrinsia dovice protection	Yes
intrinsic device protection meter everland 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	
• at 40 °C rated value	32 A
• at 50 °C rated value	28.4 A
at 60 °C rated value	26 A
operational current at inside-delta circuit	
• at 40 °C rated value	55.4 A
• at 50 °C rated value	49 A
at 60 °C rated value	45 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	7.5 kW
 at 230 V at inside-delta circuit at 40 °C rated value 	15 kW
 at 400 V at 40 °C rated value 	15 kW
• at 400 V at inside-delta circuit at 40 °C rated value	22 kW
 at 500 V at 40 °C rated value 	18.5 kW
 at 500 V at inside-delta circuit at 40 °C rated value 	30 kW

Operating frequency 4 reted value	50 H ₇
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 	14 A
 at rotary coding switch on switch position 2 	15.2 A
 at rotary coding switch on switch position 3 	16.4 A
 at rotary coding switch on switch position 4 	17.6 A
 at rotary coding switch on switch position 5 	18.8 A
 at rotary coding switch on switch position 6 	20 A
 at rotary coding switch on switch position 7 	21.2 A
 at rotary coding switch on switch position 8 	22.4 A
 at rotary coding switch on switch position 9 	23.6 A
 at rotary coding switch on switch position 10 	24.8 A
 at rotary coding switch on switch position 11 	26 A
 at rotary coding switch on switch position 12 	27.2 A
 at rotary coding switch on switch position 13 	28.4 A
 at rotary coding switch on switch position 14 	29.6 A
 at rotary coding switch on switch position 15 	30.8 A
 at rotary coding switch on switch position 16 	32 A
• minimum	14 A
adjustable motor current	
 for inside-delta circuit at rotary coding switch on switch position 1 	24.2 A
 for inside-delta circuit at rotary coding switch on switch position 2 	26.3 A
 for inside-delta circuit at rotary coding switch on switch position 3 	28.4 A
 for inside-delta circuit at rotary coding switch on switch position 4 	30.5 A
 for inside-delta circuit at rotary coding switch on switch position 5 	32.6 A
for inside-delta circuit at rotary coding switch on switch position 6	34.6 A
for inside-delta circuit at rotary coding switch on switch position 7 for inside delta circuit at rotary coding switch on switch position 7	36.7 A
 for inside-delta circuit at rotary coding switch on switch position 8 for inside-delta circuit at rotary coding switch on switch 	38.8 A 40.9 A
position 9 • for inside-delta circuit at rotary coding switch on switch	43 A
position 10 • for inside-delta circuit at rotary coding switch on switch	45 A
position 11 • for inside-delta circuit at rotary coding switch on switch	47.1 A
position 12 • for inside-delta circuit at rotary coding switch on switch	49.2 A
position 13 • for inside-delta circuit at rotary coding switch on switch	51.3 A
 position 14 for inside-delta circuit at rotary coding switch on switch position 15 	53.3 A
for inside-delta circuit at rotary coding switch on switch position 16	55.4 A
at inside-delta circuit minimum	24.2 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	22 W
at 50 °C after startup	21 W
at 60 °C after startup	20 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup	531 W
• at 50 °C during startup	449 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 voltage at AC at 50 Hz	-15 %
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
inrush current by closing the bypass contacts maximum	0.17 A
inrush current peak at application of control supply voltage	12.2 A
maximum duration of inrush current peak at application of control supply	2.2 ms
voltage	
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	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	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
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	2.3 kg
Connections/ Terminals	
type of electrical connection	
for main current circuit	screw-type terminals
• for control circuit	screw-type 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 10 mm²)
	EA 11.0 E.O IIIII 7. EA 1E.O U.U IIIII 7

for AWG cables for main current circuit solid	2x (16 12), 2x (14 8)
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)
for 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 	2 2.5 N·m
 for auxiliary and control contacts with screw-type 	0.8 1.2 N·m
terminals	
tightening torque [lbf·in]	
 for main contacts with screw-type terminals 	18 22 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 according 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 according to IEC 60721 	1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get
during the constitution to IFO 00704	inside the devices), 1M4
during transport according 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. 100 A; Iq = 5 kA
— usable for High Faults at 460/480 V according to UL	Siemens type: 3RV2742, max.40 A or 3VA51, max. 60 A; Iq max = 65 kA
 usable for Standard Faults at 460/480 V at inside- delta circuit according to UL 	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; Iq = 5 kA
 usable for High Faults at 460/480 V at inside-delta circuit according to UL 	Siemens type: 3VA51, max. 60 A; Iq max = 65 kA
— usable for Standard Faults at 575/600 V according to UL	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; Iq = 5 kA
 usable for Standard Faults at 575/600 V at inside- delta circuit according to UL 	Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; Iq = 5 kA
of the fuse	
 usable for Standard Faults up to 575/600 V according to UL 	Type: Class RK5 / K5, max. 125 A; Iq = 5 kA
 usable for High Faults up to 575/600 V according to UL 	Type: Class J / L, max. 125 A; Iq = 100 kA
 usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class RK5 / K5, max. 125 A; Iq = 5 kA
	Type: Class RK5 / K5, max. 125 A; Iq = 5 kA Type: Class J / L, max. 125 A; Iq = 100 kA
to 575/600 V according to UL — usable for High Faults at inside-delta circuit up to	
to 575/600 V according to UL — usable for High Faults at inside-delta circuit up to 575/600 V according to UL	
to 575/600 V according to UL — usable for High Faults at inside-delta circuit up to 575/600 V according to UL operating power [hp] for 3-phase motors	Type: Class J / L, max. 125 A; Iq = 100 kA
to 575/600 V according to UL — usable for High Faults at inside-delta circuit up to 575/600 V according to UL operating power [hp] for 3-phase motors • at 200/208 V at 50 °C rated value	Type: Class J / L, max. 125 A; Iq = 100 kA
to 575/600 V according to UL — usable for High Faults at inside-delta circuit up to 575/600 V according to UL operating power [hp] for 3-phase motors • at 200/208 V at 50 °C rated value • at 220/230 V at 50 °C rated value	Type: Class J / L, max. 125 A; Iq = 100 kA 7.5 hp 10 hp
to 575/600 V according to UL — usable for High Faults at inside-delta circuit up to 575/600 V according to UL operating power [hp] for 3-phase motors • at 200/208 V at 50 °C rated value • at 220/230 V at 50 °C rated value • at 460/480 V at 50 °C rated value	Type: Class J / L, max. 125 A; Iq = 100 kA 7.5 hp 10 hp 20 hp

15 hp at 220/230 V at inside-delta circuit at 50 °C rated value • at 460/480 V at inside-delta circuit at 50 °C rated value 30 hp • at 575/600 V at inside-delta circuit at 50 °C rated value 40 hp contact rating of auxiliary contacts according to UL R300-B300 Safety related data protection class IP on the front according to IEC 60529 touch protection on the front according to IEC 60529 finger-safe, for vertical contact from the front electromagnetic compatibility in accordance with IEC 60947-4-2 Certificates/ approvals

General Product Approval

EMC



Confirmation









Declaration of Conformity

Test Certificates

Marine / Shipping





Type Test Certificates/Test Report







Marine / Shipping

other



Confirmation

Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging

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

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

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RW5216-1TC15

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5216-1TC15

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5216-1TC15

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5216-1TC15&lang=en

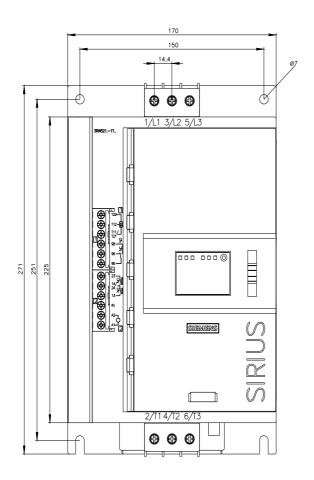
Characteristic: Tripping characteristics, I2t, Let-through current

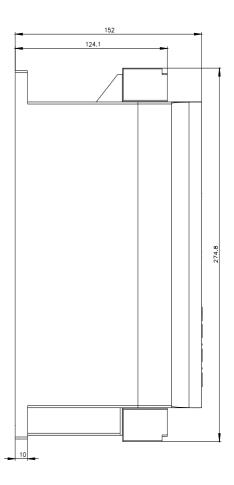
https://support.industry.siemens.com/cs/ww/en/ps/3RW5216-1TC15/char

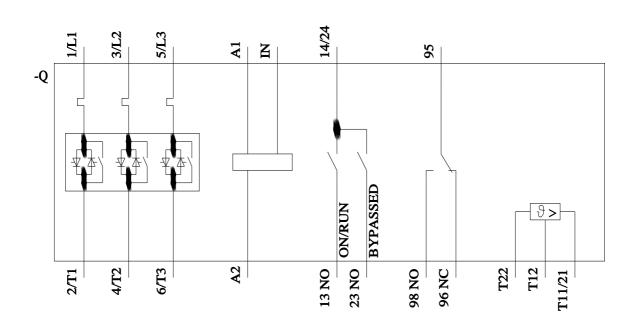
Characteristic: Installation altitude

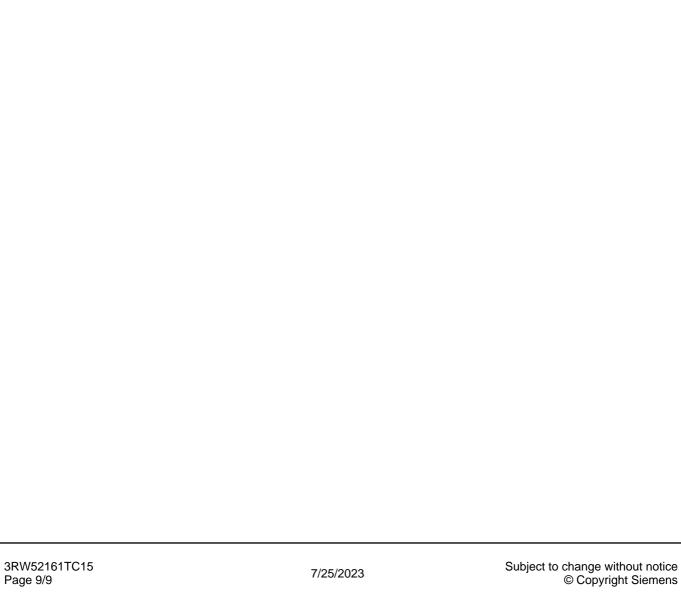
Simulation Tool for Soft Starters (STS)

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









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