SIEMENS

product brand name

Data sheet 3RW5243-6AC04

SIRIUS



SIRIUS soft starter 200-480 V 210 A, 24 V AC/DC Screw terminals Analog output

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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 	3VA2325-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V 	3VA2325-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 400 V at inside-delta circuit 	3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V at inside-delta circuit 	3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of the gG fuse usable up to 690 V 	2x3NA3354-6; Type of coordination 1, Iq = 65 kA
 of the gG fuse usable at inside-delta circuit up to 500 V 	2x3NA3354-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	3NE1230-2; Type of coordination 2, Iq = 65 kA
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE3333; 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

product feature integrated bypass contact system

Yes

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	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; 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
T Not londingy	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	210 A
at 50 °C rated value	186 A
• at 60 °C rated value	170 A
operational current at inside-delta circuit	
at 40 °C rated value	364 A
at 50 °C rated value	322 A
at 60 °C rated value	294 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	.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 	55 kW
 at 230 V at inside-delta circuit at 40 °C rated value 	110 kW
 at 400 V at 40 °C rated value 	110 kW
 at 400 V at inside-delta circuit at 40 °C rated value 	200 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 	90 A
 at rotary coding switch on switch position 2 	98 A
 at rotary coding switch on switch position 3 	106 A
 at rotary coding switch on switch position 4 	114 A
 at rotary coding switch on switch position 5 	122 A
at rotary coding switch on switch position 6	130 A
at rotary coding switch on switch position 7	138 A
 at rotary coding switch on switch position 8 	146 A
 at rotary coding switch on switch position 9 	154 A
at rotary coding switch on switch position 10	162 A
at rotary coding switch on switch position 11	170 A
at rotary coding switch on switch position 12	178 A
at rotary coding switch on switch position 13	186 A
at rotary coding switch on switch position 14	194 A
at rotary coding switch on switch position 15	202 A
at rotary coding switch on switch position 16	210 A
• minimum	90 A
adjustable motor current	
for inside-delta circuit at rotary coding switch on switch position 1	156 A
 for inside-delta circuit at rotary coding switch on switch position 2 	170 A
 for inside-delta circuit at rotary coding switch on switch position 3 	184 A
 for inside-delta circuit at rotary coding switch on switch position 4 	197 A
 for inside-delta circuit at rotary coding switch on switch position 5 	211 A
 for inside-delta circuit at rotary coding switch on switch position 6 	225 A
 for inside-delta circuit at rotary coding switch on switch position 7 	239 A
 for inside-delta circuit at rotary coding switch on switch position 8 	253 A
 for inside-delta circuit at rotary coding switch on switch position 9 	267 A
 for inside-delta circuit at rotary coding switch on switch position 10 	281 A
for inside-delta circuit at rotary coding switch on switch position 11	294 A
for inside-delta circuit at rotary coding switch on switch position 12	308 A
for inside-delta circuit at rotary coding switch on switch position 13	322 A
for inside-delta circuit at rotary coding switch on switch position 14 for inside delta circuit at rotary and in a switch on	336 A
for inside-delta circuit at rotary coding switch on switch position 15	350 A
 for inside-delta circuit at rotary coding switch on switch position 16 	364 A

at inside-delta circuit minimum	156 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	75 W
at 50 °C after startup at 50 °C after startup	68 W
at 60 °C after startup	63 W
power loss [W] at AC at current limitation 350 %	
• at 40 °C during startup	3 562 W
at 50 °C during startup	2 979 W
at 60 °C during startup	2 617 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	470 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 Varistor
design of the overvoltage protection 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
design of short should protestion for control should	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	393 mm

width	210 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	9.9 kg
Connections/ Terminals	
type of electrical connection	
for main current circuit	busbar connection
• for control circuit	screw-type terminals
width of connection bar maximum	45 mm
	45 11111
type of connectable conductor cross-sections	2v (FO 240 mm²)
for DIN cable lug for main contacts stranded for DIN cable lug for main contacts finely stranded	2x (50 240 mm²)
for DIN cable lug for main contacts finely stranded type of connectable conductor cross-sections	2x (70 240 mm²)
<i>5.</i>	4x (0.5 4.0 mags2) 2x (0.5 2.5 mags2)
for control circuit solid for control circuit finely stranded with core and	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
at the digital inputs at DC maximum	1 000 m
tightening torque	1 000 111
for main contacts with screw-type terminals	14 24 N·m
for auxiliary and control contacts with screw-type	0.8 1.2 N·m
terminals	0.0 1.2 N III
tightening torque [lbf·in]	
for main contacts with screw-type terminals	124 210 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
during attacks at 150,00701	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
	460. to ILO 00071 77-2. Old35 A
Communication/ Protocol	
communication module is supported	Voc
PROFINET standard The arklad (ID)	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: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 10 kA
according to UL	

- usable for High Faults at 460/480 V according to UL

- usable for Standard Faults at 460/480 V at inside-delta circuit according to UL
- usable for High Faults at 460/480 V at insidedelta 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: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq max = 65

Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 10 kA

Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq max = 65

Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 10 kA

Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 10 kA

Type: Class J / L, max. 700 A; Iq = 10 kA

Type: Class J / L, max. 700 A; Iq = 100 kA

Type: Class J / L, max. 700 A; Iq = 10 kA

Type: Class J / L, max. 700 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 200/208 V at inside-delta circuit at 50 °C rated
- 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

contact rating of auxiliary contacts according to UL

60 hp

60 hp

150 hp

100 hp

125 hp

250 hp

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

IP00; IP20 with cover

finger-safe, for vertical contact from the front with cover

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

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=3RW5243-6AC04

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5243-6AC04

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5243-6AC04

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5243-6AC04&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

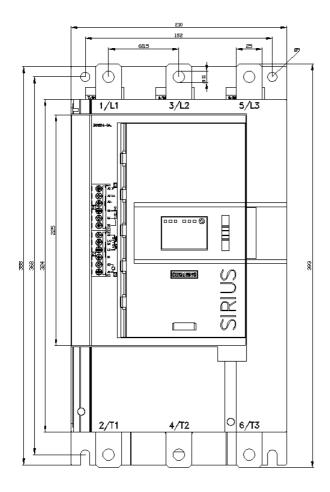
https://support.industry.siemens.com/cs/ww/en/ps/3RW5243-6AC04/char

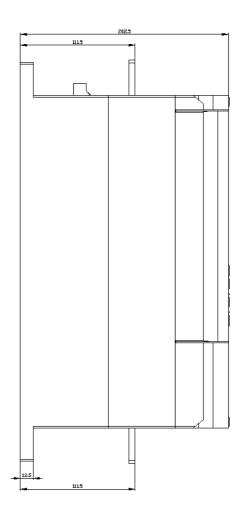
Characteristic: Installation altitude

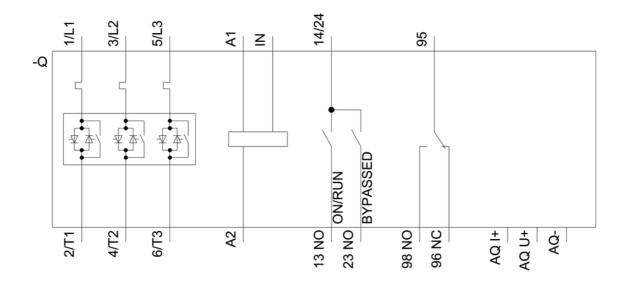
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5243-6AC04&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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