SIEMENS

Data sheet 3RW5074-2AB04

SIRIUS



SIRIUS soft starter 200-480 V 315 A, 24 V AC/DC Spring-loaded terminals Analog output



product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW50
manufacturer's article number	
 of standard HMI module usable 	<u>3RW5980-0HS01</u>
 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 	3VA2440-7MN32-0AA0; Type of assignment 1, Iq = 65 kA
 of circuit breaker usable at 500 V 	3VA2440-7MN32-0AA0; Type of assignment 1, Iq = 65 kA
 of the gG fuse usable up to 690 V 	2x3NA3365-6; Type of coordination 1, lq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	3NE1 333-2; Type of coordination 2, Iq = 65 kA
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3NE3 335; Type of coordination 2, Iq = 65 kA
 of line contactor usable up to 480 V 	<u>3RT1075</u>
 of line contactor usable up to 690 V 	<u>3RT1075</u>
General technical data	
starting voltage [%]	30 100 %
stopping voltage [%]	50 %; non-adjustable
start-up ramp time of soft starter	0 20 s
ramp-down 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	2
buffering time in the event of power failure	

Power Electronics operational current • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value • at 60 °C rated value • rated value 10 % relative negative tolerance of the operating voltage relative positive tolerance of the operating voltage • at 230 V at 40 °C rated value • at 400 V at 40 °C rated value • at 400 V at 40 °C rated value Operating frequency 1 rated value Operating frequency 2 rated value For Hz Operating frequency 2 rated value output for Hz relative negative tolerance of the operating frequency -10 %	for made assessed 1 - 9	400	
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utilization category according to IEC 60947-4.2 reference code according to IEC 61346-2 Q Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71888-10-5 2-2.76-6-detabron-4-4-sacpropylolance globarol - 779-94-7 Date analysinopenhacyclof 12, 2.1.16-9, 0.2,13,0,5,10)ctadeca-7,15-diene (Poethiorane Pussino) - 4-sacpropylolance globarol - 779-94-7 Date analysinopenhacyclof 12, 2.1.16-9, 0.2,13,0,5,10)ctadeca-7,15-diene (Poethiorane Pussino) - 4-sacpropylolance globarol - 779-94-7 Date analysinopenhacyclof 12, 2.1.16-9, 0.2,13,0,5,10)ctadeca-7,15-diene (Poethiorane Pussino) - 74-8-4-1-7 Product function *ramp-up (soft starting) *ramp-down (soft stop) *Soft Torque *Yes - adjustable current limitation *person of the sacpropenhacyclof 12, 2.1.16-9, 0.2,13,0,5,10)ctadeca-7,15-diene (Poethiorane Pussino) - pump ramp down *Yes - inimisate devise protection *Yes - inimisate devise protection *vesultation of themistor motor protection *vesiltation of the control supply voltage *vesiltation of the special accessories *vesiltation of the special accessories *vesiltation of the control supply voltage *via software parameterizable *via software configurable *via software parameterizable *via software configurable *via s	·		
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product function • ramp-up (soft starting) • ramp-up (soft starting) • ramp-up (soft starting) • Soft Torque • adjustable current limitation • pump ramp down • intrinsic device protection • pump ramp down • intrinsic device protection • evaluation of thermistor motor protection • evaluation of thermistor motor protection • evaluation of thermistor motor protection • auto-RESET • manual RESET • Yes • manual RESET • yes • remote reset • communication function • ves; By turning off the control supply voltage • communication function • ves; Only in conjunction with special accessories • error logbook • via software parameterizable • via software configurable • via software configurable • Ves • PROFlenergy • voltage ramp • torque control • analog output • Power Electronics operating output Power Electronics operating voltage • rated value • at 40 °C rated value • at 60 °C rated value		Lead monoxide (lead oxide) - 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 1,6,7,8,9,14,15,16,17,17,18,18- Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"™) covering any of its individual anti- and syn-isomers or any combination thereof	
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Operating frequency 2 rated value 60 Hz relative negative tolerance of the operating frequency -10 %			
relative negative tolerance of the operating frequency -10 %			
Totality positive totaling of the operating inequality	relative positive tolerance of the operating frequency	10 %	
adjustable motor current			
• at rotary coding switch on switch position 1 135 A	-	135 A	
• at rotary coding switch on switch position 2		147 A	

 at rotary coding switch on switch position 3 	159 A
 at rotary coding switch on switch position 4 	171 A
 at rotary coding switch on switch position 5 	183 A
 at rotary coding switch on switch position 6 	195 A
 at rotary coding switch on switch position 7 	207 A
 at rotary coding switch on switch position 8 	219 A
 at rotary coding switch on switch position 9 	231 A
 at rotary coding switch on switch position 10 	243 A
at rotary coding switch on switch position 11	255 A
at rotary coding switch on switch position 12	267 A
	279 A
at rotary coding switch on switch position 13	
at rotary coding switch on switch position 14	291 A
 at rotary coding switch on switch position 15 	303 A
 at rotary coding switch on switch position 16 	315 A
• minimum	135 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 	36 W
 at 50 °C after startup 	29 W
at 60 °C after startup	24 W
power loss [W] at AC at current limitation 350 %	
 at 40 °C during startup 	3 368 W
• at 50 °C during startup	2 805 W
at 60 °C during startup	2 455 W
type of the motor protection	Electronic, tripping in the event of thermal overload of the motor
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	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	490 mA
inrush current by closing the bypass contacts 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	оторо от оприј
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)		
digital output version			
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		
nstallation/ 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	230 mm		
width	160 mm		
depth	282 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	7.3 kg		
Connections/ Terminals	7.0 kg		
type of electrical connection	hugher connection		
for main current circuit	busbar connection		
• for control circuit	spring-loaded terminals		
width of connection bar maximum	35 mm; with connection cover 3RT1966-4EA1 maximum length 45 mm		
type of connectable conductor cross-sections for main contacts for box terminal			
 using the front clamping point solid 	95 300 mm²		
 using the front clamping point finely stranded with core 	70 240 mm²		
end processingusing the front clamping point finely stranded without core	70 240 mm²		
end processing	0F 200 mm²		
using the front clamping point stranded	95 300 mm ²		
using the back clamping point solid	120 240 mm²		
r box terminal using the back clamping point	250 500 kcmil		
 using both clamping points solid 	min. 2x 70 mm², max. 2x 240 mm²		
 using both clamping points finely stranded with core end processing 	min. 2x 50 mm², max. 2x 185 mm²		
 using both clamping points finely stranded without core end processing 	min. 2x 50 mm², max. 2x 185 mm²		
 using both clamping points stranded 	min. 2x 70 mm², max. 2x 240 mm²		
 using the back clamping point finely stranded with core end processing 	120 185 mm²		
 using the back clamping point finely stranded without core end processing 	120 185 mm²		
using the back clamping point stranded	120 240 mm²		
type of connectable conductor cross-sections			
 for AWG cables for main current circuit solid 	2/0 500 kcmil		
 for DIN cable lug for main contacts stranded 	50 240 mm²		
 for DIN cable lug for main contacts finely stranded 	70 240 mm²		
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)		
for AWG cables for control circuit solid	2x (24 16)		
 for AWG cables for control circuit finely stranded with core end processing 	2x (24 16)		
wire length			
between soft starter and motor maximum	800 m		
at the digital inputs at AC maximum	1 000 m		
tightening torque			
for main contacts with screw-type terminals	14 24 N·m		
for auxiliary and control contacts with screw-type terminals terminals	0.8 1.2 N·m		
e e			
tightening torque [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 Manual	
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 inside the devices), 1M4	
during transport according to IEC 60721	2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)	
Environmental footprint		
Siemens Eco Profile (SEP)	Siemens EcoTech	
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 High Faults at 460/480 V according to UL	Siemens type: 3VA54, max. 600 A; Iq max = 65 kA	
• of the fuse		
 usable for Standard Faults up to 575/600 V according to UL 	Type: Class L, max. 1000 A; Iq = 18 kA	
 usable for High Faults up to 575/600 V according to UL 	Type: Class L, max. 1000 A; Iq = 100 kA	
operating power [hp] for 3-phase motors		
 at 200/208 V at 50 °C rated value 	75 hp	
 at 220/230 V at 50 °C rated value 	100 hp	
• at 460/480 V at 50 °C rated value	200 hp	
Electrical Safety		
protection class IP on the front according to IEC 60529	IP00; IP20 with cover	
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with cover	
ATEX		
Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX	SIL1	
PFHD with high demand rate according to IEC 61508 relating to ATEX	9E-6 1/h	
PFDavg with low demand rate according to IEC 61508 relating to ATEX	0.09	
hardware fault tolerance according to IEC 61508 relating to ATEX	0	
T1 value for proof test interval or service life according to IEC 61508 relating to ATEX	3 a	
certificate of suitability		
• ATEX	Yes	
• IECEx	Yes	
• UKEX	Yes	
Approvals Certificates		
General Product Approval		







Confirmation





EMV For use in hazardous locations	Test Certificates	Marine / Shipping
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Miscellaneous

Type Test Certificates/Test Report



Marine / Shipping

other

Environment





Confirmation





Environmental Confirmations

Further information

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=3RW5074-2AB04

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5074-2AB04

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5074-2AB04

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5074-2AB04&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

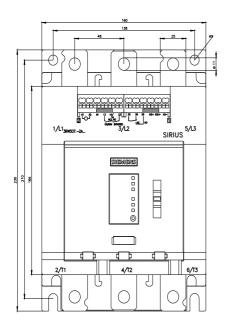
https://support.industry.siemens.com/cs/ww/en/ps/3RW5074-2AB04/char

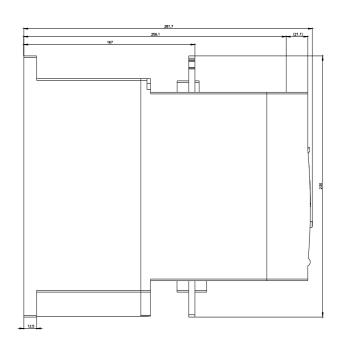
Characteristic: Installation altitude

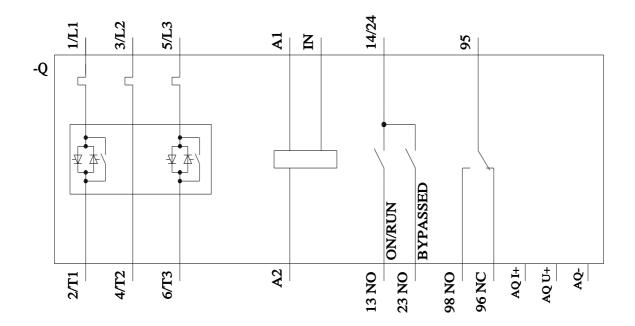
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5074-2AB04&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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