SIEMENS



Data sheet 3RW5056-2AB04



SIRIUS soft starter 200-480 V 171 A, 24 V AC/DC Spring-loaded terminals Analog output

Figure similar

product brand name	SIRIUS		
product category	Hybrid switching devices		
product designation	Soft starter		
product type designation	3RW50		
manufacturer's article number			
 of standard HMI module usable 	3RW5980-0HS01		
 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 assignment 1, Iq = 20 kA		
 of circuit breaker usable at 500 V 	3VA2220-7MN32-0AA0; Type of assignment 1, Iq = 20 kA		
 of the gG fuse usable up to 690 V 	3NA3244-6; Type of coordination 1, Iq = 65 kA		
 of full range R fuse link for semiconductor protection usable up to 690 V 	3NE1 230-0; 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>3RT1056</u>		
 of line contactor usable up to 690 V 	<u>3RT1064</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 %		
accuracy class according to IEC 61557-12	5 %		
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		

Asia alaaa	01 4 00 4 04 / 4 05 /			
trip class	CLASS 10A / 10E (20E, acc. to IEC 60947-4-2			
buffering time in the event of power failure	400 mg			
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	1 400 V			
service factor	1 6 kV			
surge voltage resistance rated value maximum permissible voltage for safe isolation	0 KV			
	600 V			
between main and auxiliary circuit 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			
Substance Prohibitance (Date)	09/23/2019			
product function	09/20/2019			
• 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			
• 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			
 voltage ramp 	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 	171 A			
• at 50 °C rated value	153 A			
at 60 °C rated value	141 A			
operating voltage				
rated value	200 480 V			
relative negative tolerance of the operating voltage	-15 %			
relative positive tolerance of the operating voltage	10 %			
operating power for 3-phase motors	AE IAM			
at 230 V at 40 °C rated value at 400 V at 40 °C rated value	45 kW			
at 400 V at 40 °C rated value Operating frequency 1 rated value	90 kW			
Operating frequency 1 rated value Operating frequency 2 rated value	50 Hz			
relative negative tolerance of the operating frequency	60 Hz -10 %			
relative negative tolerance of the operating frequency	10 %			
adjustable motor current				
at rotary coding switch on switch position 1	81 A			
at rotary coding switch on switch position 2	87 A			
at rotary coding switch on switch position 3	93 A			
)				

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a at rotary coding switch on switch position 13 at rotary coding switch on switch position 15 at rotary coding switch on switch position 15 at rotary coding switch on switch position 15 at rotary coding switch on switch position 16 at 80 °C after startup at 80 °C after startup 20 W at 80 °C after startup 22 W at 80 °C during startup 1 75 °F W at 80 °C during startup 1 1 308 W 1 478 W 2 at 80 °C during startup 2 at 80 °C during startup 1 308 W 1 24 V 2 at 80 °C during startup 2 at	 at rotary coding switch on switch position 11 				
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control supply voltage		-10 %			
control supply voltage • at DC rated value relative negative tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC control supply current in standby mode rated value holding current in bypass operation rated value locked-rotor current at close of bypass contact maximum inrush current peak at application of control supply voltage maximum duration of inrush current peak at application of control supply voltage design of the overvoltage protection design of short-circuit protection for control circuit number of digital inputs 24 V -20 % control supply current in bypass contact maximum 160 mA 7.6 A 3.3 A 12.1 ms supply voltage 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		10 %			
relative negative tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC control supply current in standby mode rated value holding current in bypass operation rated value locked-rotor current at close of bypass contact maximum inrush current peak at application of control supply voltage maximum duration of inrush current peak at application of control supply voltage design of the overvoltage protection design of short-circuit protection for control circuit Inputs/ Outputs number of digital inputs 24 V 24 V 26 W 20 % 46 Om A 360 mA 7.6 A 12.1 ms 12.1 ms 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					
relative negative tolerance of the control supply voltage at DC relative positive tolerance of the control supply voltage at DC control supply current in standby mode rated value holding current in bypass operation rated value locked-rotor current at close of bypass contact maximum inrush current peak at application of control supply voltage maximum duration of inrush current peak at application of control supply voltage design of the overvoltage protection design of short-circuit protection for control circuit Inputs/ Outputs number of digital inputs -20 % 20 % 160 mA 360 mA 7.6 A 3.3 A 3.3 A 4.4 G 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	,	24 V			
relative positive tolerance of the control supply voltage at DC control supply current in standby mode rated value holding current in bypass operation rated value locked-rotor current at close of bypass contact maximum inrush current peak at application of control supply voltage maximum duration of inrush current peak at application of control supply voltage design of the overvoltage protection design of short-circuit protection for control circuit linputs/ Outputs number of digital inputs 20 % 160 mA 3.3 A 3.3 A 12.1 ms 12.1 ms 4 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply					
voltage at DC control supply current in standby mode rated value holding current in bypass operation rated value locked-rotor current at close of bypass contact maximum inrush current peak at application of control supply voltage maximum duration of inrush current peak at application of control supply voltage design of the overvoltage protection design of short-circuit protection for control circuit Varistor 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	voltage at DC				
control supply current in standby mode rated value holding current in bypass operation rated value locked-rotor current at close of bypass contact maximum inrush current peak at application of control supply voltage maximum duration of inrush current peak at application of control supply voltage design of the overvoltage protection design of short-circuit protection for control circuit A 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		20 /0			
Total Control Courrent at close of bypass contact maximum Total Courrent peak at application of control supply voltage maximum Total Courrent peak at application of control supply voltage Total Courrent peak at		160 mA			
inrush current peak at application of control supply voltage maximum duration of inrush current peak at application of control supply voltage design of the overvoltage protection design of short-circuit protection for control circuit design of short-circuit protection for control circuit Inputs/ Outputs number of digital inputs 3.3 A 12.1 ms Varistor 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	holding current in bypass operation rated value	360 mA			
maximum duration of inrush current peak at application of control supply voltage 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 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		7.6 A			
design of the overvoltage protection design of short-circuit protection for control circuit 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		3.3 A			
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	·	12.1 ms			
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	design of the overvoltage protection	Varistor			
number of digital inputs 1	design of short-circuit protection for control circuit	circuit breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= 300 A); Is			
-	Inputs/ Outputs				
number of digital outputs 3	number of digital inputs	1			
	number of digital outputs	3			

and a second of 11				
• not parameterizable	2 dientudena			
digital output version	2 normally-open courts (NC) / 1 clange virtich ac (Cl)			
number of analog outputs	1 Jaioneadong			
switching capacity current of the relay outputs • at AC-15 at 250 V rated value	3 /			
at DC-13 at 24 V rated value	3 A 1 A			
Installation/ mounting/ dimensions	1 /A			
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting			
mounting position	surface +/- 22.5° tiltable to the front and back			
fastening method	screw fixing			
height	198 mm			
width	120 mm			
depth	249 mm			
required spacing with side-by-side mounting				
• forwards	10 mm			
backwards	0 mm			
• upwards	100 mm			
downwards do the pride	75 mm			
at the side	5 mm			
weight without packaging	5.2 kg			
Connections/ Terminals type of electrical connection				
for main current circuit	busbar connection			
for control circuit				
width of connection bar maximum	spring-loaded terminals 25 mm			
type of connectable conductor cross-sections	LO IIIII			
for main contacts for box terminal using the front clamping point solid	16 120 mm²			
 for main contacts for box terminal using the front clamping point finely stranded with core end processing 	16 120 mm²			
 for main contacts for box terminal using the front clamping point finely stranded without core end processing 	10 120 mm²			
for main contacts for box terminal using the front clamping point stranded	16 70 mm²			
 at AWG cables for main contacts for box terminal using the front clamping point 	6 250 kcmil			
 for main contacts for box terminal using the back clamping point solid 	16 120 mm²			
 at AWG cables for main contacts for box terminal using the back clamping point 	6 250 kcmil			
 for main contacts for box terminal using both clamping points solid 	max. 1x 95 mm², 1x 120 mm²			
 for main contacts for box terminal using both clamping points finely stranded with core end processing 	max. 1x 95 mm², 1x 120 mm²			
 for main contacts for box terminal using both clamping points finely stranded without core end processing 	max. 1x 95 mm², 1x 120 mm²			
 for main contacts for box terminal using both clamping points stranded 	max. 2x 120 mm²			
 for main contacts for box terminal using the back clamping point finely stranded with core end processing 	16 120 mm²			
 for main contacts for box terminal using the back clamping point finely stranded without core end processing 	10 120 mm²			
for main contacts for box terminal using the back clamping point stranded	16 120 mm²			
type of connectable conductor cross-sections				
 at AWG cables for main current circuit solid 	4 250 kcmil			
 for DIN cable lug for main contacts stranded 	16 95 mm²			
for DIN cable lug for main contacts finely stranded	25 120 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 presenting	2x (0.25 1.5 mm ² 2x (0.25 1.5 mm ²) dientudong		
processing ● at AWG cables for control circuit solid	2x (24 16)		
at AWG cables for control circuit solid at 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 	10 14 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	89 124 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	40 100 0		
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		
 during transport according to IEC 60721 	not get inside the devices), 1M4 2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)		
EMC emitted interference	acc. to IEC 60947-4-2: Class A		
Communication/ Protocol	330 10 120 000 17 7 21 01300 7		
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: 3VA5225, max. 250 A; Iq = 10 kA		
— usable for High Faults at 460/480 V according	Siemens type: 3VA52, max. 250 A; lg max = 65 kA		
to UL			
• of the fuse			
— usable for Standard Faults up to 575/600 V	Type: Class RK5 / K5, max. 400 A; Iq = 10 kA		
according to UL — usable for High Faults up to 575/600 V	Type: Class J, max. 350 A; lg = 100 kA		
according to UL	1 ypc. 01000 0, 11100. 000 A, 14 - 100 kA		
operating power [hp] for 3-phase motors			
 at 200/208 V at 50 °C rated value 	50 hp		
• at 220/230 V at 50 °C rated value	50 hp		
• at 460/480 V at 50 °C rated value	100 hp		
Safety related data			
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	migs. Sale, for vertical contact from the front with cover		
certificate of suitability			
• ATEX	Yes		
• IECEX	Yes		
	165		
hardware fault tolerance according to IEC 61508	0		

	_	
relating to ATEX		All and a land
PFDavg with low demand rate according to IEC 61508 relating to ATEX	0.09	🖙)alentudong
PFHD with high demand rate according to EN 62061 relating to ATEX	9E-6 1/h	U U
Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX	SIL1	
T1 value for proof test interval or service life according to IEC 61508 relating to ATEX	3 y	

Certificates/ approvals

General Product Approval

For use in hazardous locations



Confirmation









For use in hazardous locations 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=3RW5056-2AB04

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5056-2AB04

 ${\bf Service \& Support~(Manuals,~Certificates,~Characteristics,~FAQs,...)}$

https://support.industry.siemens.com/cs/ww/en/ps/3RW5056-2AB04

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5056-2AB04&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RW5056-2AB04/char

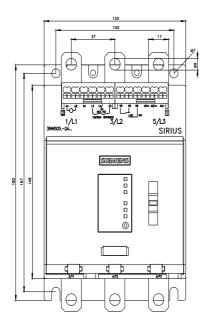
Characteristic: Installation altitude

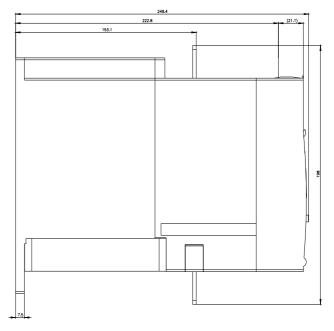
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5056-2AB04&objecttype=14&gridview=view1

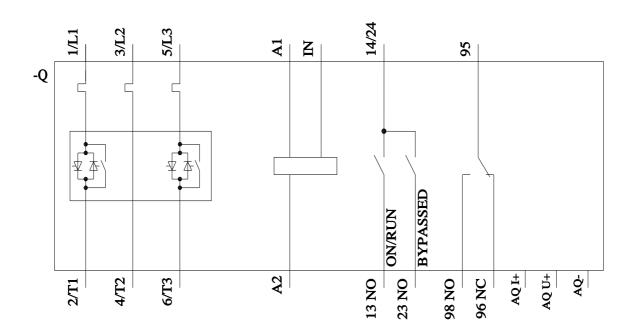
Simulation Tool for Soft Starters (STS)

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









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