SIEMENS

Data sheet 3RW5554-6HA16



SIRIUS soft starter 200-690 V 840 A, 110-250 V AC Screw terminals

Figure similar

product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW55
manufacturer's article number	
 of high feature HMI module usable 	3RW5980-0HF00
 of communication module PROFINET standard usable 	3RW5980-0CS00
 of communication module PROFINET high-feature usable 	3RW5950-0CH00
 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 	3VA2510-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V 	3VA2510-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 400 V at inside-delta circuit 	3VA2716-7AB05-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of circuit breaker usable at 500 V at inside-delta circuit 	3VA2716-7AB05-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10
 of the gG fuse usable up to 690 V 	2x3NA3365-6; Type of coordination 1, Iq = 65 kA
 of full range R fuse link for semiconductor protection usable up to 690 V 	3NB3351-1KK26: Type of coordination 2, Iq = 65 kA
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3NC3343-1U; Type of coordination 2, Iq = 65 kA
anavel tacknical data	

General technical data	
starting voltage [%]	20 100 %
stopping voltage [%]	50 50 %
start-up ramp time of soft starter	0 360 s
ramp-down time of soft starter	0 360 s
start torque [%]	10 100 %
stopping torque [%]	10 100 %
torque limitation [%]	20 200 %
current limiting value [%] adjustable	125 800 %
breakaway voltage [%] adjustable	40 100 %
breakaway time adjustable	0 2 s
number of parameter sets	3
accuracy class acc. to IEC 61557-12	5 %

certificate of suitability	
CE marking	Yes
 UL approval 	Yes
 CSA approval 	Yes
product component	
HMI-High Feature	Yes
is supported HMI-High Feature	Yes
product feature integrated bypass contact system	Yes
number of controlled phases	3
trip class	CLASS 10A / 10E (default) / 20E / 30E; acc. to IEC 60947-4-2
current unbalance limiting value [%]	10 60 %
ground-fault monitoring limiting value [%]	10 95 %
recovery time after overload trip adjustable	60 1 800 s
buffering time in the event of power failure	
• for main current circuit	100 ms
for control circuit	100 ms
	0 255 s
idle time adjustable	690 V
insulation voltage rated value degree of pollution	3, acc. to IEC 60947-4-2
	3, acc. to IEC 60947-4-2 8 kV
impulse voltage rated value	
blocking voltage of the thyristor maximum	1 800 V
service factor	1.15
surge voltage resistance rated value	8 kV
maximum permissible voltage for safe isolation	
between main and auxiliary circuit	690 V; does not apply for thermistor connection
utilization category acc. to IEC 60947-4-2	AC 53a
shock resistance	15 g / 11 ms, from 6 g / 11 ms with potential contact lifting
vibration resistance	15 mm up to 6 Hz; 2 g up to 500 Hz
reference code acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	11.02.2019 00:00:00
product function	V
ramp-up (soft starting)	Yes
• ramp-down (soft stop)	Yes
breakaway pulse	Yes
adjustable current limitation	Yes
creep speed in both directions of rotation	Yes
pump ramp down	Yes
 DC braking 	Yes
motor heating	Yes
 slave pointer function 	Yes
trace function	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; Only up to 600 V operating voltage
• auto-RESET	Yes
manual RESET	Yes
remote reset	Yes
 communication function 	Yes
 operating measured value display 	Yes
• event list	Yes
error logbook	Yes
• cirol logbook	
	Yes
via software parameterizable	Yes Yes
_	
via software parameterizablevia software configurablescrew terminal	Yes Yes
via software parameterizablevia software configurable	Yes

* emovable terminal for control circuit * voltage ramp * torque control * combined braking * control * combined braking * condition monitoring * yes * analog output of inputaboutputs * programmable control inputaboutputs * condition monitoring * automatic parameterisation * special control monitoring * automatic parameterisation * special control monitoring * automatic parameterisation * yes * application wareds * application wareds * application wareds * application wareds * alternative run-down *	firmware update	Yes
• voltage ramp • forque control • combined braking • analog output • vess • condition monitaring • condition monitaring • automatic parameterisation • application wizards • all elements fundown • emergency operation mode • reversing operation • soft starting at heavy starting conditions • ves • control starting at heavy starting conditions • vess • control starting at heavy starting • vess • control starting at heavy starting conditions • vess • control starting at heavy starting conditions • vess • control starting at heavy starting • vess • control starting at heavy starting conditions • vess • control starting at heavy starting	-	
combined braking		Yes
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o at 690 V at 40 °C rated value Operating frequency 1 rated value Operating frequency 2 rated value relative negative tolerance of the operating frequency relative positive tolerance of the operating frequency relative positive tolerance of the operating frequency minimum load [%]	 at 500 V at 40 °C rated value 	560 kW
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Control circuit/ Control type of voltage of the control supply voltage AC control supply voltage at AC		
type of voltage of the control supply voltage AC control supply voltage at AC		Electronic, tripping in the event of thermal overload of the motor
control supply voltage at AC		
		AC
• at 50 Hz		
	● at 50 Hz	110 250 V

- ct 60 I I=	110 250 V
• at 60 Hz	
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	100 mA
holding current in bypass operation rated value	210 mA
locked-rotor current at close of bypass contact	1 A
maximum	
inrush current peak at application of control supply voltage maximum	44 A
duration of inrush current peak at application of control supply voltage	1.7 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	4
parameterizable	4
· ·	
number of inputs for thermistor connection	1; Type A PTC or Klixon / Thermoclick
 number of digital outputs 	4
 number of digital outputs parameterizable 	3
number of digital outputs not parameterizable	1
digital output version	3 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	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)
fastening method	screw fixing
height	764 mm
width	478 mm
depth	241 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	45 kg
Connections/ Terminals	
type of electrical connection	
for main current circuit	busbar connection
• for control circuit	screw-type terminals
width of connection bar maximum	55 mm
with or connection bar maximum wire length for thermistor connection	
with conductor cross-section = 0.5 mm² maximum	50 m
with conductor cross-section = 0.5 mm² maximum with conductor cross-section = 1.5 mm² maximum	~~
	150 m
with conductor cross-section = 2.5 mm² maximum	150 m 250 m

type of connectable conductor cross-sections	
 for DIN cable lug for main contacts stranded 	2x (50 240 mm²)
for DIN cable lug for main contacts finely stranded	2x (70 240 mm²)
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)
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 DC maximum	1 000 m
tightening torque	
 for main contacts with screw-type terminals 	20 35 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 	177 310 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	2 000 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
 PROFINET high-feature 	Yes
EtherNet/IP	Yes
 Modbus RTU 	Yes
 Modbus TCP 	Yes
• PROFIBUS	Yes
UL/CSA ratings	
manufacturer's article number	
• of the fuse	
 usable for Standard Faults up to 575/600 V according to UL 	Type: Class J / L, max. 2500 A; Iq = 42 kA
 usable for High Faults up to 575/600 V according to UL 	Type: Class J / L, max. 2500 A; Iq = 100 kA
 usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 2500 A; Iq = 42 kA
 usable for High Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 2500 A; Iq = 100 kA
operating power [hp] for 3-phase motors	
• at 200/208 V at 50 °C rated value	250 hp
• at 220/230 V at 50 °C rated value	300 hp
• at 460/480 V at 50 °C rated value	600 hp
 at 575/600 V at 50 °C rated value 	800 hp
at 0707000 V at 00 O Tated Value	
at 200/208 V at inside-delta circuit at 50 °C rated value	450 hp
• at 200/208 V at inside-delta circuit at 50 °C rated	450 hp 550 hp

value ● at 575/600 V at inside-delta circuit at 50 °C rated value	1 450 hp
	D000 D000
contact rating of auxiliary contacts according to UL	R300-B300
Safety related data	
protection class IP on the front acc. to IEC 60529	IP00
electromagnetic compatibility	acc. to IEC 60947-4-2
ATEX	
certificate of suitability	
• ATEX	Yes
• IECEx	Yes
 according to ATEX directive 2014/34/EU 	BVS 18 ATEX F 003 X
type of protection according to ATEX directive 2014/34/EU	II (2)G [Ex eb Gb] [Ex db Gb] [Ex pxb Gb], II (2)D [Ex tb Db] [Ex pxb Db], I (M2) [Ex db Mb]
hardware fault tolerance acc. to IEC 61508 relating to ATEX	0
PFDavg with low demand rate acc. to IEC 61508 relating to ATEX	0.008
PFHD with high demand rate acc. to EN 62061 relating to ATEX	0.0000005 1/h
Safety Integrity Level (SIL) acc. to IEC 61508 relating to ATEX	SIL1
T1 value for proof test interval or service life acc. to IEC 61508 relating to ATEX	3 y

Certificates/ approvals

General Product Approval

EMC

For use in hazardous locations













For use in hazardous locations Declaration of Conformity

Test Certificates

Marine / Shipping

other





Type Test Certificates/Test Report





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=3RW5554-6HA16

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5554-6HA16

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5554-6HA16

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5554-6HA16&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

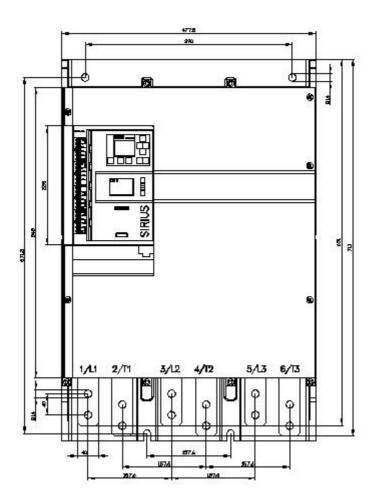
https://support.industry.siemens.com/cs/ww/en/ps/3RW5554-6HA16/char

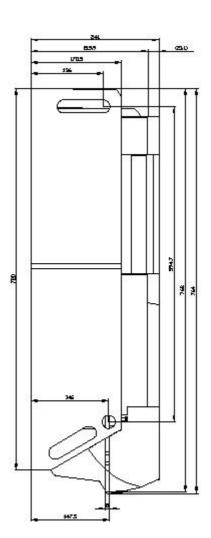
Characteristic: Installation altitude

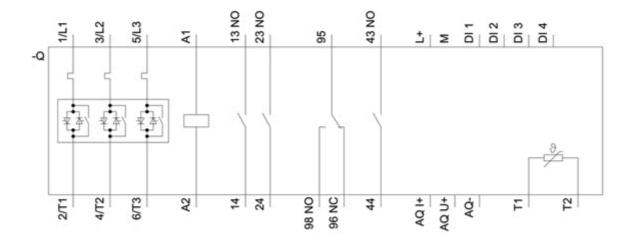
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5554-6HA16&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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