SIEMENS



SIRIUS soft starter 200-690 V 1280 A, 110-250 V AC Spring-type terminals

Data sheet

3RW5558-2HA16



Figuresimilar

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 	<u>3RW5980-0HF00</u>			
 of communication module PROFINET standard usable 	<u>3RW5980-0CS00</u>			
 of communication module PROFINET high-feature usable 	<u>3RW5950-0CH00</u>			
 of communication module PROFIBUS usable 	<u>3RW5980-0CP00</u>			
 of communication module Modbus TCP usable 	<u>3RW5980-0CT00</u>			
 of communication module Modbus RTU usable 	<u>3RW5980-0CR00</u>			
 of communication module Ethernet/IP 	<u>3RW5980-0CE00</u>			
 of circuit breaker usable at 400 V 	3VA2716-7AB05-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10			
 of circuit breaker usable at 500 V 	3VA2716-7AB05-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10			
 of the gG fuse usable up to 690 V 	3x3NA3365-6; Type of coordination 1, Iq = 65 kA			
 of full range R fuse link for semiconductor protection usable up to 690 V 	<u>3NB3357-1KK26: Type of coordination 2. Iq = 65 kA</u>			
 of back-up R fuse link for semiconductor protection usable up to 690 V 	3x3NE3340-8; Type of coordination 2, Iq = 65 kA			
General technical data				
starting voltage [%]	20 100 %			
stopping voltage [%]	50 %; non-adjustable			
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 according to IEC 61557-12	5 %			
certificate of suitability				
CE marking	Yes			
UL approval	Yes			
CSA approval	Yes			
product component				

HMI-High Feature	Yes diontudong
is supported HMI-High Feature	Yes Yes (P) dientudong
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 %
buffering time in the event of power failure	100 ms
 for main current circuit for control circuit 	100 ms
idle time adjustable	0 255 s
	690 V
insulation voltage rated value degree of pollution	3, acc. to IEC 60947-4-2
impulse voltage rated value	8 kV
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
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
recovery time after overload trip adjustable	60 1 800 s
utilization category according to IEC 60947-4-2	AC 53a
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	02/11/2019
product function	
 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
via software parameterizable	Yes
via software configurable	Yes
screw terminal	No Yes
 spring-loaded terminal PROFlenergy 	Yes Yes; in connection with the PROFINET Standard and PROFINET High- Feature communication modules
 firmware update 	Yes
 removable terminal for control circuit 	Yes
● voltage ramp	Yes
torque control	Yes
combined braking	Yes
analog output	Yes; 4 20 mA (default) / 0 10 V
 programmable control inputs/outputs 	Yes

condition monitoring	Yes Yes Yes
automatic parameterisation	Yes
application wizards	Yes
 alternative run-down 	Tes
 emergency operation mode 	Yes
 reversing operation 	Yes
 soft starting at heavy starting conditions 	Yes
Power Electronics	
operational current	
 at 40 °C rated value 	1 280 A
 at 40 °C rated value minimum 	256 A
• at 50 °C rated value	1 139 A
• at 60 °C rated value	1 030 A
operational current at inside-delta circuit	
• at 40 °C rated value	2 217 A
• at 50 °C rated value	1 973 A
• at 60 °C rated value	1 784 A
operating voltage	
 rated value 	200 690 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	10 %
inside-delta circuit	
operating power for 3-phase motors	400.1144
• at 230 V at 40 °C rated value	400 kW
• at 230 V at inside-delta circuit at 40 °C rated value	710 kW
• at 400 V at 40 °C rated value	710 kW
• at 400 V at inside-delta circuit at 40 °C rated value	1 200 kW
• at 500 V at 40 °C rated value	900 kW
• at 500 V at inside-delta circuit at 40 °C rated value	1 500 kW
at 690 V at 40 °C rated value	1 200 kW
Operating frequency 1 rated value	50 Hz
Operating frequency 2 rated value	60 Hz
relative negative tolerance of the operating frequency	10 % - 10 %
relative positive tolerance of the operating frequency minimum load [%]	10 %; Relative to set le
	10 %, Relative to set le
 power loss [W] for rated value of the current at AC at 40 °C after startup 	384 W
• at 50 °C after startup	
 at 50°C after startup at 60 °C after startup 	337 W 275 W
power loss [W] at AC at current limitation 350 %	210 11
	23 270 W
• at 40 °C during startup	23 279 W
 at 50 °C during startup at 60 °C during startup 	19 496 W 16 778 W
type of the motor protection	
Control circuit/ Control	Electronic, tripping in the event of thermal overload of the motor
	10
type of voltage of the control supply voltage	AC
control supply voltage at AC	110 250.1/
• at 50 Hz	110 250 V
at 60 Hz	110 250 V -15 %
relative negative tolerance of the control supply voltage at AC at 50 Hz	
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	10 %
voltage at AC at 60 Hz	

control supply voltage frequency	50 60 Hz
relative negative tolerance of the control supply voltage frequency	^{5060 Hz} ^{-10 %} (p) dientudong
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 maximum	1 A
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 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	
switching capacity current of the relay outputs	
at AC-15 at 250 V rated value	3 A
 at AC-15 at 250 V rated value 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	61 kg
Connections/ Terminals	
type of electrical connection	
for main current circuit	busbar connection
for control circuit	spring-loaded terminals
width of connection bar maximum	55 mm
wire length for thermistor connection	
with conductor cross-section = 0.5 mm ² 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 = 1.5 mm² maximum with conductor cross-section = 2.5 mm² maximum 	250 m
	200 111
type of connectable conductor cross-sections	$2x(50 - 240 \text{ mm}^2)$
for DIN cable lug for main contacts stranded for DIN cable lug for main contacts finally stranded	$2x (50 \dots 240 \text{ mm}^2)$
for DIN cable lug for main contacts finely stranded	2x (70 240 mm²)
type of connectable conductor cross-sections	$2x (0.25 - 4.5 mm^2)$
• for control circuit solid	2x (0.25 1.5 mm ²)
for control circuit finely stranded with core end processing	2x (0.25 1.5 mm ²)
 at AWG cables for control circuit solid 	2x (24 16)
 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

• 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 emitted interference communication module is supported Yes • PROFINET high-feature Yes • EherNet/IP Yes • Modbus RTU Yes • Modbus RTU Yes • Modbus TCP Yes • PROFIBUS Yes ULCSA ratings Yes manufacturer's article number of the fuse - usable for Standard Faults up to 575/600 V Type: Class J / L, max. 3000 A; lq = 85 kA according to UL Type: Class J / L, max. 3000 A; lq = 85 kA - usable for Figh Faults at inside-delta circuit up to 575/600 V according to UL Type: Class J / L, max. 3000 A; lq = 100 kA - usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL Type: Class J / L, max. 3000 A; lq = 85 kA operating power [hp] for 3-phase motors 400 hp • at 220/230 V at 50 °C rated value 450 hp • at 220/230 V at 50 °C rated value 1000 hp • at 460/480 V at 50 °C rated value 1250 hp • at 460/480 V at inside-delta circuit at 50 °C rated value<				
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value at 575/600 V at inside-delta circuit at 50 °C rated value 				
value				
contact rating of auxiliary contacts according to UL R300-B300				
Safety related data				
protection class IP on the front according to IEC IP00 60529				
electromagnetic compatibility acc. to IEC 60947-4-2				
ATEX				
certificate of suitability				
• ATEX Yes				
• IECEx Yes				

	X directive 2014/34/			18 ATEX F 00	Alant	Indone	
type of protection according to ATEX directive 2014/34/EU		II (2) I (M2	II (2)G [Ex eb Gb]				
hardware fault tolerance according to IEC 61508 relating to ATEX		0					
PFDavg with low dem relating to ATEX	and rate according	to IEC 61508	0.00	8			
PFHD with high dema relating to ATEX	nd rate according to	o EN 62061	5E-7 1/h				
Safety Integrity Level relating to ATEX	(SIL) according to I	EC 61508	SIL1	SIL1			
T1 value for proof test according to IEC 6150		life	3 s				
Certificates/ approvals	-						
General Product App	roval					EMC	
S.		<u>Confirmatic</u>	<u>nc</u>		EHC	RCM	
For use in hazardous	locations	Declaration o Conformity	of	Test Certificates	Marine / Shipping		
IECE×	K ATEX	CE EG-Konf.		Type Test Certific- ates/Test Report	ABS	BUREAU VERITAS	
Marine / Shipping		other					
Lloyds Register LRS	PRS	<u>Confirmatic</u>	<u>nc</u>				
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=3RW5558-2HA16 Cox online generator							

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http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5558-2HA16

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5558-2HA16

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5558-2HA16&lang=en

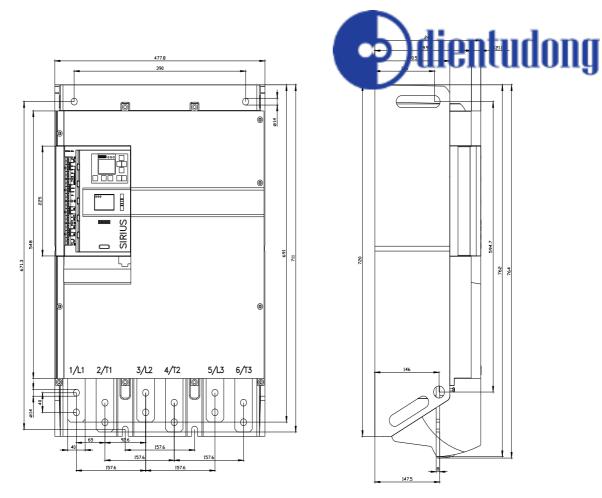
Characteristic: Tripping characteristics, I²t, Let-through current

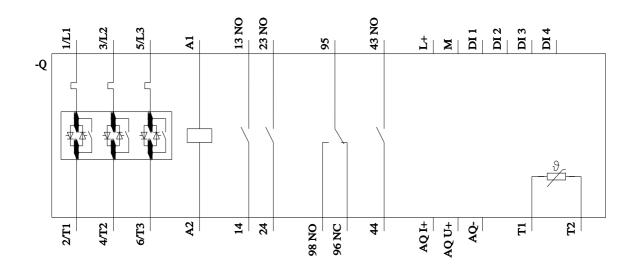
https://support.industry.siemens.com/cs/ww/en/ps/3RW5558-2HA16/char

Characteristic: Installation altitude

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5558-2HA16&objecttype=14&gridview=view1 Simulation Tool for Soft Starters (STS)

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







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5/13/2022 🖸

