SIEMENS

Data sheet 3RW5558-2HA04

SIRIUS



SIRIUS soft starter 200-480 V 1280 A, 24 V AC/DC Spring-type terminals

Figure similar

product brand name

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 	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 	3NB3357-1KK26; Type of coordination 2, Iq = 65 kA
 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 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

# HMH-High Feature Yes supported HMH-High Feature Yes 9 # is supported HMH-High Feature Yes 9 # in the Feature High Feature Communication Models Yes 9 # in the Feature High Feature Communication Models Yes 9 # in the Fea		_
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• for control circuit 100 ms 10le time adjustable 0 255 s 10le time adjustable 0 255 s 10le time adjustable 480 V 480 V 46gree of pollution 3, acc. to IEC 60947-4-2 6 kV 400 V 400	•	
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 via software configurable screw terminal spring-type terminal PROFlenergy firmware update Yes Yes; in connection with the PROFINET Standard and PROFINET High-Feature communication modules Yes 	• error logbook	Yes
 via software configurable screw terminal spring-type terminal PROFlenergy firmware update Yes Yes; in connection with the PROFINET Standard and PROFINET High-Feature communication modules Yes 	 via software parameterizable 	Yes
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 PROFlenergy Yes; in connection with the PROFINET Standard and PROFINET High- Feature communication modules Yes 		
		Yes; in connection with the PROFINET Standard and PROFINET High-
removable terminal for control circuit Yes	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
 automatic parameterisation 	Yes
 application wizards 	Yes
 alternative run-down 	Yes
 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	200 480 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	-15 %
inside-delta circuit	
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 	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
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 %
minimum load [%]	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 	337 W
at 60 °C after startup	275 W
power loss [W] at AC at current limitation 350 %	
 at 40 °C during startup 	23 279 W
• at 50 °C during startup	19 496 W
at 60 °C during startup	16 778 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
	0.437
at 60 Hz rated value	24 V
at 60 Hz rated value relative negative tolerance of the control supply voltage at AC at 50 Hz	-20 %
relative negative tolerance of the control supply	

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	-10 %
voltage frequency	
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	440 mA
holding current in bypass operation rated value	1 100 mA
locked-rotor current at close of bypass contact maximum	6.7 A
inrush current peak at application of control supply voltage maximum	7.5 A
duration of inrush current peak at application of control supply voltage	20 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	0.4
• at AC-15 at 250 V rated value	3 A
at AC-15 at 250 V rated valueat DC-13 at 24 V rated value	3 A 1 A
 at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions	1 A
at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position	1 A Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)
at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position fastening method	1 A Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) screw fixing
at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position	1 A Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)
at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position fastening method height	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) screw fixing 764 mm
at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position fastening method height width	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) screw fixing 764 mm 478 mm
at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position fastening method height width depth	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) screw fixing 764 mm 478 mm
at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) screw fixing 764 mm 478 mm 241 mm
at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting forwards	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) screw fixing 764 mm 478 mm 241 mm
at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting forwards backwards	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) screw fixing 764 mm 478 mm 241 mm 10 mm 0 mm
at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting forwards backwards upwards	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) screw fixing 764 mm 478 mm 241 mm 10 mm 0 mm 100 mm
at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting forwards backwards upwards downwards at the side weight without packaging	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) screw fixing 764 mm 478 mm 241 mm 10 mm 0 mm 100 mm 75 mm
 at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting forwards backwards upwards downwards at the side 	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) screw fixing 764 mm 478 mm 241 mm 10 mm 0 mm 100 mm 75 mm 5 mm
at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting forwards backwards upwards downwards at the side weight without packaging Connections/ Terminals type of electrical connection	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) screw fixing 764 mm 478 mm 241 mm 10 mm 0 mm 100 mm 75 mm 5 mm 61 kg
 at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting forwards backwards upwards downwards at the side weight without packaging Connections/ Terminals type of electrical connection for main current circuit 	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) screw fixing 764 mm 478 mm 241 mm 10 mm 0 mm 100 mm 75 mm 5 mm 61 kg
at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting forwards backwards backwards upwards downwards at the side weight without packaging Connections/ Terminals type of electrical connection for main current circuit for control circuit	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) screw fixing 764 mm 478 mm 241 mm 10 mm 0 mm 100 mm 75 mm 5 mm 61 kg busbar connection spring-loaded terminals
at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting a forwards backwards upwards downwards at the side weight without packaging Connections/ Terminals type of electrical connection for main current circuit for control circuit width of connection bar maximum	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) screw fixing 764 mm 478 mm 241 mm 10 mm 0 mm 100 mm 75 mm 5 mm 61 kg
at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting a forwards backwards upwards downwards at the side weight without packaging Connections/ Terminals type of electrical connection for control circuit width of connection bar maximum wire length for thermistor connection	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) screw fixing 764 mm 478 mm 241 mm 10 mm 0 mm 100 mm 75 mm 5 mm 61 kg busbar connection spring-loaded terminals 55 mm
at AC-15 at 250 V rated value at DC-13 at 24 V rated value Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting a forwards backwards upwards downwards at the side weight without packaging Connections/ Terminals type of electrical connection for main current circuit for control circuit width of connection bar maximum	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) screw fixing 764 mm 478 mm 241 mm 10 mm 0 mm 100 mm 75 mm 5 mm 61 kg busbar connection spring-loaded terminals

with conductor cross-section = 2.5 mm² maximum	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 	2x (0.25 1.5 mm²)
 for control circuit finely stranded with core end 	2x (0.25 1.5 mm²)
processing	
 at AWG cables for control circuit solid 	2x (24 16)
 at AWG cables for control circuit finely stranded with 	2x (24 16)
core end processing	
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 	0.8 1.2 N·m
terminals	
tightening torque [lbf·in]	
 for main contacts with screw-type terminals 	177 310 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
	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
a during transport and to IEC 60721	,,
during transport acc. to IEC 60721 EMC emitted interference	2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m) acc. to IEC 60947-4-2: Class A
	acc. to IEC 00947-4-2. 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	Type: Class J / L, max. 3000 A; Iq = 85 kA
according to UL	, , , , , , , , , , , , , , , , , , , ,
 usable for High Faults up to 575/600 V according to UL 	Type: Class J / L, max. 3000 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. 3000 A; Iq = 85 kA
usable for High Faults at inside-delta circuit up to 575/600 V according to UL	Type: Class J / L, max. 3000 A; Iq = 100 kA
operating power [hp] for 3-phase motors	
• at 200/208 V at 50 °C rated value	400 hp
	400 hp
• at 220/230 V at 50 °C rated value	450 hp
	1 000 hp
• at 460/480 V at 50 °C rated value	700.1
• at 200/208 V at inside-delta circuit at 50 °C rated	700 hp
	700 hp 850 hp

value • at 460/480 V at inside-delta circuit at 50 °C rated	1 700 hp
value	1 700 Hp
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=3RW5558-2HA04

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5558-2HA04

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

https://support.industry.siemens.com/cs/ww/en/ps/3RW5558-2HA04

Characteristic: Tripping characteristics, I2t, Let-through current

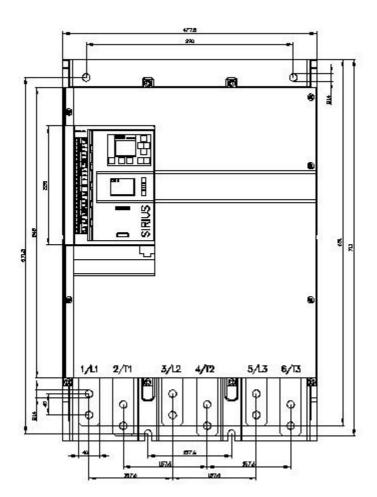
https://support.industry.siemens.com/cs/ww/en/ps/3RW5558-2HA04/char

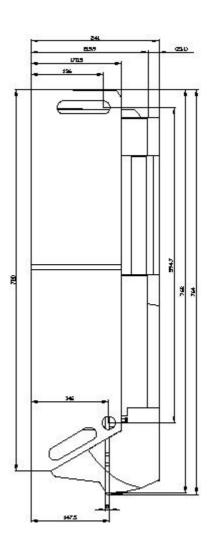
Characteristic: Installation altitude

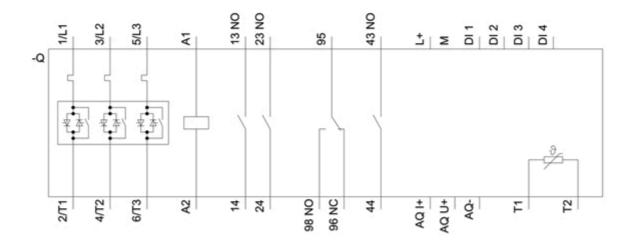
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5558-2HA04&objecttype=14&gridview=view1

Simulation Tool for Soft Starters (STS)

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







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