

## Data sheet

3RW5558-6HA06



Figure similar

SIRIUS soft starter 200-690 V 1280 A, 24 V AC/DC Screw terminals

<b>product brand name</b>	SIRIUS
<b>product category</b>	Hybrid switching devices
<b>product designation</b>	Soft starter
<b>product type designation</b>	3RW55
<b>manufacturer's article number</b>	<ul style="list-style-type: none"> <li>• of high feature HMI module usable <a href="#">3RW5980-0HF00</a></li> <li>• of communication module PROFINET standard usable <a href="#">3RW5980-0CS00</a></li> <li>• of communication module PROFINET high-feature usable <a href="#">3RW5950-0CH00</a></li> <li>• of communication module PROFIBUS usable <a href="#">3RW5980-0CP00</a></li> <li>• of communication module Modbus TCP usable <a href="#">3RW5980-0CT00</a></li> <li>• of communication module Modbus RTU usable <a href="#">3RW5980-0CR00</a></li> <li>• of communication module Ethernet/IP <a href="#">3RW5980-0CE00</a></li> <li>• of circuit breaker usable at 400 V <a href="#">3VA2716-7AB05-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> <li>• of circuit breaker usable at 500 V <a href="#">3VA2716-7AB05-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> <li>• of the gG fuse usable up to 690 V 3x3NA3365-6; Type of coordination 1, Iq = 65 kA</li> <li>• of full range R fuse link for semiconductor protection usable up to 690 V <a href="#">3NB3357-1KK26; Type of coordination 2, Iq = 65 kA</a></li> <li>• of back-up R fuse link for semiconductor protection usable up to 690 V 3x3NE3340-8; Type of coordination 2, Iq = 65 kA</li> </ul>
<b>General technical data</b>	
<b>starting voltage [%]</b>	20 ... 100 %
<b>stopping voltage [%]</b>	50 %; non-adjustable
<b>start-up ramp time of soft starter</b>	0 ... 360 s
<b>ramp-down time of soft starter</b>	0 ... 360 s
<b>start torque [%]</b>	10 ... 100 %
<b>stopping torque [%]</b>	10 ... 100 %
<b>torque limitation [%]</b>	20 ... 200 %
<b>current limiting value [%] adjustable</b>	125 ... 800 %
<b>breakaway voltage [%] adjustable</b>	40 ... 100 %
<b>breakaway time adjustable</b>	0 ... 2 s
<b>number of parameter sets</b>	3
<b>accuracy class according to IEC 61557-12</b>	5 %
<b>certificate of suitability</b>	
• CE marking	Yes
• UL approval	Yes
• CSA approval	Yes
<b>product component</b>	





- condition monitoring
- automatic parameterisation
- application wizards
- alternative run-down
- emergency operation mode
- reversing operation
- soft starting at heavy starting conditions

Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes

### Power Electronics

<b>operational current</b>	
• 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
<b>operational current at inside-delta circuit</b>	
• at 40 °C rated value	2 217 A
• at 50 °C rated value	1 973 A
• at 60 °C rated value	1 784 A
<b>operating voltage</b>	
• rated value	200 ... 690 V
• at inside-delta circuit rated value	200 ... 600 V
<b>relative negative tolerance of the operating voltage</b>	-15 %
<b>relative positive tolerance of the operating voltage</b>	10 %
<b>relative negative tolerance of the operating voltage at inside-delta circuit</b>	-15 %
<b>relative positive tolerance of the operating voltage at inside-delta circuit</b>	10 %
<b>operating power for 3-phase motors</b>	
• 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
<b>Operating frequency 1 rated value</b>	50 Hz
<b>Operating frequency 2 rated value</b>	60 Hz
<b>relative negative tolerance of the operating frequency</b>	-10 %
<b>relative positive tolerance of the operating frequency</b>	10 %
<b>minimum load [%]</b>	10 %; Relative to set le
<b>power loss [W] for rated value of the current at AC</b>	
• at 40 °C after startup	384 W
• at 50 °C after startup	337 W
• at 60 °C after startup	275 W
<b>power loss [W] at AC at current limitation 350 %</b>	
• at 40 °C during startup	23 279 W
• at 50 °C during startup	19 496 W
• at 60 °C during startup	16 778 W
<b>type of the motor protection</b>	Electronic, tripping in the event of thermal overload of the motor
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	AC/DC
<b>control supply voltage at AC</b>	
• at 50 Hz rated value	24 V
• at 60 Hz rated value	24 V
<b>relative negative tolerance of the control supply voltage at AC at 50 Hz</b>	-20 %
<b>relative positive tolerance of the control supply voltage at AC at 50 Hz</b>	20 %
<b>relative negative tolerance of the control supply voltage at AC at 60 Hz</b>	-20 %
<b>relative positive tolerance of the control supply voltage at AC at 60 Hz</b>	20 %



<b>control supply voltage frequency</b>	50 ... 60 Hz
<b>relative negative tolerance of the control supply voltage frequency</b>	-10 %
<b>relative positive tolerance of the control supply voltage frequency</b>	10 %
<b>control supply voltage</b>	
• at DC rated value	24 V
<b>relative negative tolerance of the control supply voltage at DC</b>	-20 %
<b>relative positive tolerance of the control supply voltage at DC</b>	20 %
<b>control supply current in standby mode rated value</b>	440 mA
<b>holding current in bypass operation rated value</b>	1 100 mA
<b>locked-rotor current at close of bypass contact maximum</b>	6.7 A
<b>inrush current peak at application of control supply voltage maximum</b>	7.5 A
<b>duration of inrush current peak at application of control supply voltage</b>	20 ms
<b>design of the overvoltage protection</b>	Varistor
<b>design of short-circuit protection for control circuit</b>	4 A gG fuse (I <sub>cu</sub> =1 kA), 6 A quick-acting fuse (I <sub>cu</sub> =1 kA), C1 miniature circuit breaker (I <sub>cu</sub> = 600 A), C6 miniature circuit breaker (I <sub>cu</sub> = 300 A); Is not part of scope of supply

#### Inputs/ Outputs

<b>number of digital inputs</b>	4
• parameterizable	4
• <b>number of digital outputs</b>	4
• number of digital outputs parameterizable	3
• number of digital outputs not parameterizable	1
<b>digital output version</b>	3 normally-open contacts (NO) / 1 changeover contact (CO)
<b>number of analog outputs</b>	1
<b>switching capacity current of the relay outputs</b>	
• at AC-15 at 250 V rated value	3 A
• at DC-13 at 24 V rated value	1 A

#### Installation/ mounting/ dimensions

<b>mounting position</b>	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)
<b>fastening method</b>	screw fixing
<b>height</b>	764 mm
<b>width</b>	478 mm
<b>depth</b>	241 mm
<b>required spacing with side-by-side mounting</b>	
• forwards	10 mm
• backwards	0 mm
• upwards	100 mm
• downwards	75 mm
• at the side	5 mm
<b>weight without packaging</b>	61 kg

#### Connections/ Terminals

<b>type of electrical connection</b>	
• for main current circuit	busbar connection
• for control circuit	screw-type terminals
<b>width of connection bar maximum</b>	55 mm
<b>wire length for thermistor connection</b>	
• with conductor cross-section = 0.5 mm <sup>2</sup> maximum	50 m
• with conductor cross-section = 1.5 mm <sup>2</sup> maximum	150 m
• with conductor cross-section = 2.5 mm <sup>2</sup> maximum	250 m
<b>type of connectable conductor cross-sections</b>	
• for DIN cable lug for main contacts stranded	2x (50 ... 240 mm <sup>2</sup> )
• for DIN cable lug for main contacts finely stranded	2x (70 ... 240 mm <sup>2</sup> )
<b>type of connectable conductor cross-sections</b>	
• for control circuit solid	1x (0.5 ... 4.0 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )
• for control circuit finely stranded with core end	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )



processing	
<ul style="list-style-type: none"> <li>at AWG cables for control circuit solid</li> </ul>	1x (20 ... 12), 2x (2 ... 14)
<b>wire length</b>	
<ul style="list-style-type: none"> <li>between soft starter and motor maximum</li> </ul>	800 m
<ul style="list-style-type: none"> <li>at the digital inputs at DC maximum</li> </ul>	1 000 m
<b>tightening torque</b>	
<ul style="list-style-type: none"> <li>for main contacts with screw-type terminals</li> </ul>	20 ... 35 N·m
<ul style="list-style-type: none"> <li>for auxiliary and control contacts with screw-type terminals</li> </ul>	0.8 ... 1.2 N·m
<b>tightening torque [lbf·in]</b>	
<ul style="list-style-type: none"> <li>for main contacts with screw-type terminals</li> </ul>	177 ... 310 lbf·in
<ul style="list-style-type: none"> <li>for auxiliary and control contacts with screw-type terminals</li> </ul>	7 ... 10.3 lbf·in
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m; Derating as of 1000 m, see catalog
<b>ambient temperature</b>	
<ul style="list-style-type: none"> <li>during operation</li> </ul>	-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above
<ul style="list-style-type: none"> <li>during storage and transport</li> </ul>	-40 ... +80 °C
<b>environmental category</b>	
<ul style="list-style-type: none"> <li>during operation according to IEC 60721</li> </ul>	3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
<ul style="list-style-type: none"> <li>during storage according to IEC 60721</li> </ul>	1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4
<ul style="list-style-type: none"> <li>during transport according to IEC 60721</li> </ul>	2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)
<b>EMC emitted interference</b>	acc. to IEC 60947-4-2: Class A
<b>Communication/ Protocol</b>	
<b>communication module is supported</b>	
<ul style="list-style-type: none"> <li>PROFINET standard</li> </ul>	Yes
<ul style="list-style-type: none"> <li>PROFINET high-feature</li> </ul>	Yes
<ul style="list-style-type: none"> <li>EtherNet/IP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Modbus RTU</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Modbus TCP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>PROFIBUS</li> </ul>	Yes
<b>UL/CSA ratings</b>	
<b>manufacturer's article number</b>	
<ul style="list-style-type: none"> <li><b>of the fuse</b> <ul style="list-style-type: none"> <li>usable for Standard Faults up to 575/600 V according to UL</li> </ul> </li> </ul>	Type: Class J / L, max. 3000 A; Iq = 85 kA
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>usable for High Faults up to 575/600 V according to UL</li> </ul> </li> </ul>	Type: Class J / L, max. 3000 A; Iq = 100 kA
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL</li> </ul> </li> </ul>	Type: Class J / L, max. 3000 A; Iq = 85 kA
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>usable for High Faults at inside-delta circuit up to 575/600 V according to UL</li> </ul> </li> </ul>	Type: Class J / L, max. 3000 A; Iq = 100 kA
<b>operating power [hp] for 3-phase motors</b>	
<ul style="list-style-type: none"> <li>at 200/208 V at 50 °C rated value</li> </ul>	400 hp
<ul style="list-style-type: none"> <li>at 220/230 V at 50 °C rated value</li> </ul>	450 hp
<ul style="list-style-type: none"> <li>at 460/480 V at 50 °C rated value</li> </ul>	1 000 hp
<ul style="list-style-type: none"> <li>at 575/600 V at 50 °C rated value</li> </ul>	1 250 hp
<ul style="list-style-type: none"> <li>at 200/208 V at inside-delta circuit at 50 °C rated value</li> </ul>	700 hp
<ul style="list-style-type: none"> <li>at 220/230 V at inside-delta circuit at 50 °C rated value</li> </ul>	850 hp
<ul style="list-style-type: none"> <li>at 460/480 V at inside-delta circuit at 50 °C rated value</li> </ul>	1 700 hp
<ul style="list-style-type: none"> <li>at 575/600 V at inside-delta circuit at 50 °C rated value</li> </ul>	2 200 hp
<b>contact rating of auxiliary contacts according to UL</b>	R300-B300
<b>Safety related data</b>	
<b>protection class IP on the front according to IEC 60529</b>	IP00
<b>electromagnetic compatibility</b>	acc. to IEC 60947-4-2



ATEX	
certificate of suitability <ul style="list-style-type: none"> <li>• ATEX</li> <li>• IECEx</li> <li>• according to ATEX directive 2014/34/EU</li> </ul>	Yes Yes 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 according to IEC 61508 relating to ATEX	0
PFDAvg with low demand rate according to IEC 61508 relating to ATEX	0.008
PFHD with high demand rate according to EN 62061 relating to ATEX	5E-7 1/h
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 s

Certificates/ approvals	
General Product Approval	EMC



[Confirmation](#)



For use in hazardous locations	Declaration of Conformity	Test Certificates	Marine / Shipping
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[Type Test Certificates/Test Report](#)



Marine / Shipping	other
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[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=3RW5558-6HA06>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5558-6HA06>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5558-6HA06>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5558-6HA06&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5558-6HA06&lang=en)

Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

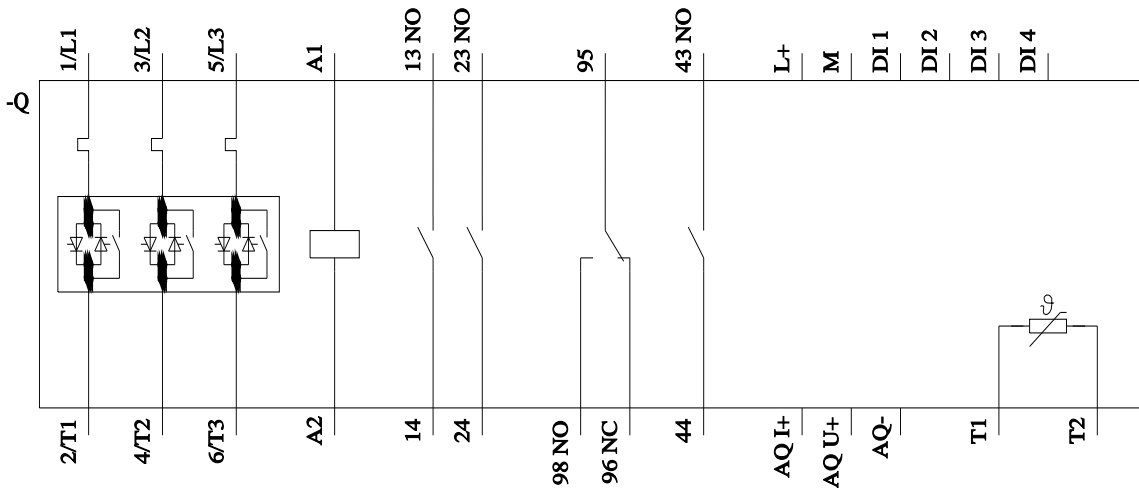
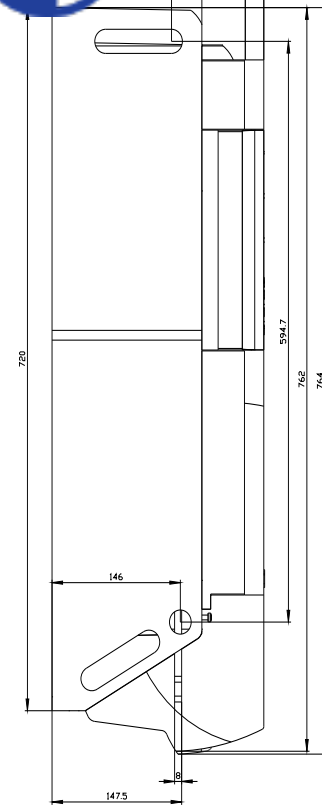
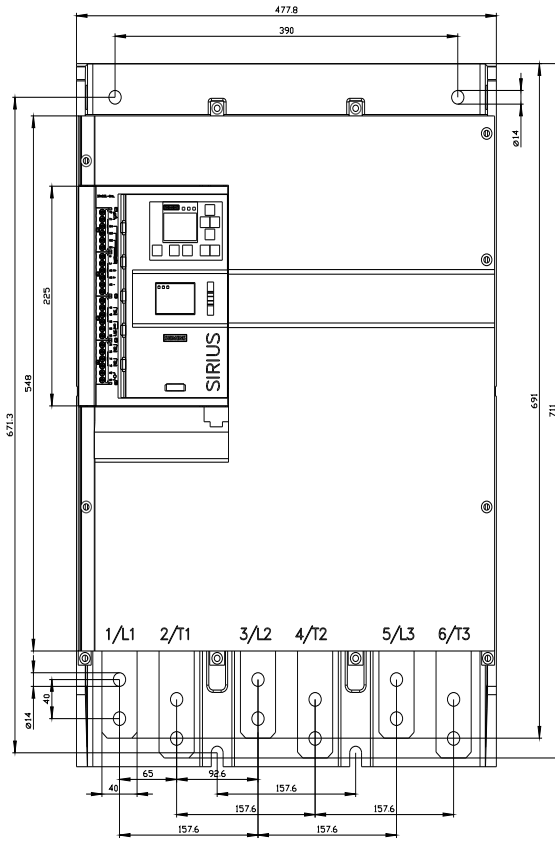
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5558-6HA06/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5558-6HA06&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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







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