



Figure similar

SIRIUS soft starter 200-480 V 143 A, 24 V AC/DC Spring-loaded terminals  
Analog output

**product brand name**

**product category**

**product designation**

**product type designation**

**manufacturer's article number**

- of standard HMI module usable
- of high feature HMI module usable
- of communication module PROFINET standard usable
- of communication module PROFIBUS usable
- of communication module Modbus TCP usable
- of communication module Modbus RTU usable
- of communication module Ethernet/IP
- of circuit breaker usable at 400 V
- of circuit breaker usable at 500 V
- of the gG fuse usable up to 690 V
- of full range R fuse link for semiconductor protection usable up to 690 V
- of back-up R fuse link for semiconductor protection usable up to 690 V
- of line contactor usable up to 480 V
- of line contactor usable up to 690 V

SIRIUS

Hybrid switching devices

Soft starter

3RW50

[3RW5980-0HS01](#)

[3RW5980-0HF00](#)

[3RW5980-0CS00](#)

[3RW5980-0CP00](#)

[3RW5980-0CT00](#)

[3RW5980-0CR00](#)

[3RW5980-0CE00](#)

[3VA2220-7MN32-0AA0](#); Type of assignment 1, Iq = 20 kA

[3VA2220-7MN32-0AA0](#); Type of assignment 1, Iq = 20 kA

[3NA3244-6](#); Type of coordination 1, Iq = 65 kA

[3NE1 227-0](#); Type of coordination 2, Iq = 65 kA

[3NE3 334 -0B](#); Type of coordination 2, Iq = 65 kA

[3RT1055](#)

[3RT1055](#)

**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
- UL approval
- CSA approval

Yes

Yes

Yes

**product component**

- HMI-High Feature
- is supported HMI-Standard
- is supported HMI-High Feature

No

Yes

Yes

**product feature integrated bypass contact system**

Yes

**number of controlled phases**

2

**trip class**

CLASS 10A / 10E (preset) / 20E; acc. to IEC 60947-4-2

**buffering time in the event of power failure**

• for main current circuit	100 ms
• for control circuit	100 ms
<b>insulation voltage rated value</b>	600 V
<b>degree of pollution</b>	3, acc. to IEC 60947-4-2
<b>impulse voltage rated value</b>	6 kV
<b>blocking voltage of the thyristor maximum</b>	1 400 V
<b>service factor</b>	1
<b>surge voltage resistance rated value</b>	6 kV
<b>maximum permissible voltage for safe isolation</b>	600 V
• between main and auxiliary circuit	15 g / 11 ms, from 12 g / 11 ms with potential contact lifting
<b>shock resistance</b>	15 mm to 6 Hz; 2g to 500 Hz
<b>vibration resistance</b>	AC-53a
utilization category according to IEC 60947-4-2	Q
<b>reference code according to IEC 81346-2</b>	09/23/2019
<b>Substance Prohibition (Date)</b>	
<b>product function</b>	
• 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
• <b>PROFlenergy</b>	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

<b>operational current</b>	143 A
• at 40 °C rated value	128 A
• at 50 °C rated value	118 A
• at 60 °C rated value	
<b>operating voltage</b>	200 ... 480 V
• rated value	
<b>relative negative tolerance of the operating voltage</b>	-15 %
<b>relative positive tolerance of the operating voltage</b>	10 %
<b>operating power for 3-phase motors</b>	
• at 230 V at 40 °C rated value	37 kW
• at 400 V at 40 °C rated value	75 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>adjustable motor current</b>	
• at rotary coding switch on switch position 1	68 A
• at rotary coding switch on switch position 2	73 A
• at rotary coding switch on switch position 3	78 A
• at rotary coding switch on switch position 4	83 A
• at rotary coding switch on switch position 5	88 A
• at rotary coding switch on switch position 6	93 A
• at rotary coding switch on switch position 7	98 A
• at rotary coding switch on switch position 8	103 A
• at rotary coding switch on switch position 9	108 A

• at rotary coding switch on switch position 10	113 A
• at rotary coding switch on switch position 11	118 A
• at rotary coding switch on switch position 12	123 A
• at rotary coding switch on switch position 13	128 A
• at rotary coding switch on switch position 14	133 A
• at rotary coding switch on switch position 15	138 A
• at rotary coding switch on switch position 16	143 A
• minimum	68 A
<b>minimum load [%]</b>	15 %; Relative to smallest settable $I_e$
<b>power loss [W] for rated value of the current at AC</b>	
• at 40 °C after startup	23 W
• at 50 °C after startup	19 W
• at 60 °C after startup	16 W
<b>power loss [W] at AC at current limitation 350 %</b>	
• at 40 °C during startup	1 336 W
• at 50 °C during startup	1 134 W
• at 60 °C during startup	1 007 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>	160 mA
<b>holding current in bypass operation rated value</b>	360 mA
<b>inrush current by closing the bypass contacts maximum</b>	7.6 A
inrush current peak at application of control supply voltage maximum	3.3 A
duration of inrush current peak at application of control supply voltage	12.1 ms
<b>design of the overvoltage protection</b>	Varistor
<b>design of short-circuit protection for control circuit</b>	4 A gG fuse ( $I_{cu}=1$ kA), 6 A quick-acting fuse ( $I_{cu}=1$ kA), C1 miniature circuit breaker ( $I_{cu}= 600$ A), C6 miniature circuit breaker ( $I_{cu}= 300$ A); Is not part of scope of supply
<b>Inputs/ Outputs</b>	
<b>number of digital inputs</b>	1
<b>number of digital outputs</b>	3
• not parameterizable	2
<b>digital output version</b>	2 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
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back

<b>fastening method</b>	screw fixing
<b>height</b>	198 mm
<b>width</b>	120 mm
<b>depth</b>	249 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
<b>weight without packaging</b>	3.2 kg
<b>Connections/ Terminals</b>	
<b>type of electrical connection</b>	
• for main current circuit	busbar connection
• for control circuit	spring-loaded terminals
<b>width of connection bar maximum</b>	25 mm
<b>type of connectable conductor cross-sections</b>	
• for main contacts for box terminal using the front clamping point solid	16 ... 120 mm <sup>2</sup>
• for main contacts for box terminal using the front clamping point finely stranded with core end processing	16 ... 120 mm <sup>2</sup>
• for main contacts for box terminal using the front clamping point finely stranded without core end processing	10 ... 120 mm <sup>2</sup>
• for main contacts for box terminal using the front clamping point stranded	16 ... 70 mm <sup>2</sup>
• 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 mm <sup>2</sup>
• 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 mm <sup>2</sup> , 1x 120 mm <sup>2</sup>
• for main contacts for box terminal using both clamping points finely stranded with core end processing	max. 1x 95 mm <sup>2</sup> , 1x 120 mm <sup>2</sup>
• for main contacts for box terminal using both clamping points finely stranded without core end processing	max. 1x 95 mm <sup>2</sup> , 1x 120 mm <sup>2</sup>
• for main contacts for box terminal using both clamping points stranded	max. 2x 120 mm <sup>2</sup>
• for main contacts for box terminal using the back clamping point finely stranded with core end processing	16 ... 120 mm <sup>2</sup>
• for main contacts for box terminal using the back clamping point finely stranded without core end processing	10 ... 120 mm <sup>2</sup>
• for main contacts for box terminal using the back clamping point stranded	16 ... 120 mm <sup>2</sup>
<b>type of connectable conductor cross-sections</b>	
• at AWG cables for main current circuit solid	4 ... 250 kcmil
• for DIN cable lug for main contacts stranded	16 ... 95 mm <sup>2</sup>
• for DIN cable lug for main contacts finely stranded	25 ... 120 mm <sup>2</sup>
<b>type of connectable conductor cross-sections</b>	
• for control circuit solid	2x (0.25 ... 1.5 mm <sup>2</sup> )
• for control circuit finely stranded with core end processing	2x (0.25 ... 1.5 mm <sup>2</sup> )
• 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)
<b>wire length</b>	
• between soft starter and motor maximum	800 m
• at the digital inputs at AC maximum	1 000 m
<b>tightening torque</b>	
• for main contacts with screw-type terminals	10 ... 14 N·m
• for auxiliary and control contacts with screw-type	0.8 ... 1.2 N·m

terminals	
<b>tightening torque [lbf-in]</b>	
• for main contacts with screw-type terminals	89 ... 124 lbf-in
• for auxiliary and control contacts with screw-type terminals	7 ... 10.3 lbf-in
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	5 000 m; derating as of 1000 m, see Manual
<b>ambient temperature</b>	
• during operation	-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above
• during storage and transport	-40 ... +80 °C
<b>environmental category</b>	
• 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 not get inside the devices), 1M4
• during transport according to IEC 60721	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>	
• PROFINET standard	Yes
• EtherNet/IP	Yes
• Modbus RTU	Yes
• Modbus TCP	Yes
• PROFIBUS	Yes
<b>UL/CSA ratings</b>	
<b>manufacturer's article number</b>	
<b>• of circuit breaker</b>	
— usable for Standard Faults at 460/480 V according to UL	Siemens type: 3VA5225, max. 250 A; Iq = 10 kA
<b>• of the fuse</b>	
— usable for Standard Faults up to 575/600 V according to UL	Type: Class RK5 / K5, max. 350 A; Iq = 10 kA
— usable for High Faults up to 575/600 V according to UL	Type: Class J, max. 350 A; Iq = 100 kA
<b>operating power [hp] for 3-phase motors</b>	
• at 200/208 V at 50 °C rated value	40 hp
• at 220/230 V at 50 °C rated value	40 hp
• at 460/480 V at 50 °C rated value	100 hp
<b>Safety related data</b>	
<b>protection class IP on the front according to IEC 60529</b>	IP00; IP20 with cover
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front with cover
<b>ATEX</b>	
<b>certificate of suitability</b>	
• ATEX	Yes
• IECEx	Yes
• UKEX	Yes
<b>hardware fault tolerance according to IEC 61508 relating to ATEX</b>	0
<b>PFDAvg with low demand rate according to IEC 61508 relating to ATEX</b>	0.09
<b>PFHD with high demand rate according to EN 62061 relating to ATEX</b>	9E-6 1/h
<b>Safety Integrity Level (SIL) according to IEC 61508 relating to ATEX</b>	SIL1
<b>T1 value for proof test interval or service life according to IEC 61508 relating to ATEX</b>	3 a
<b>Certificates/ approvals</b>	
<b>General Product Approval</b>	<b>For use in hazardous locations</b>

[Confirmation](#)

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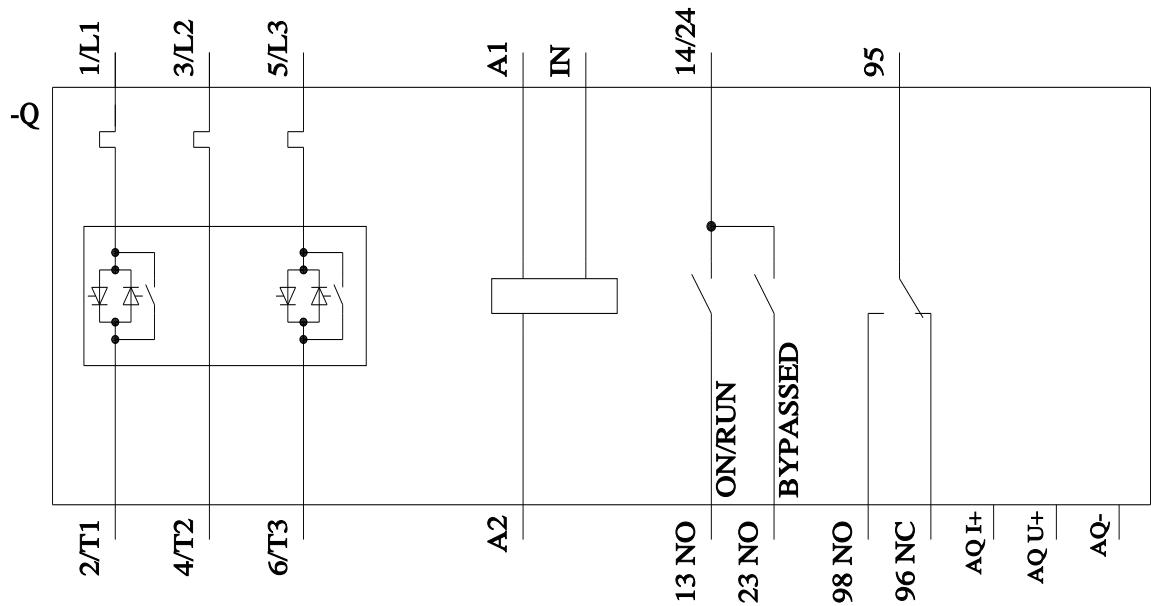
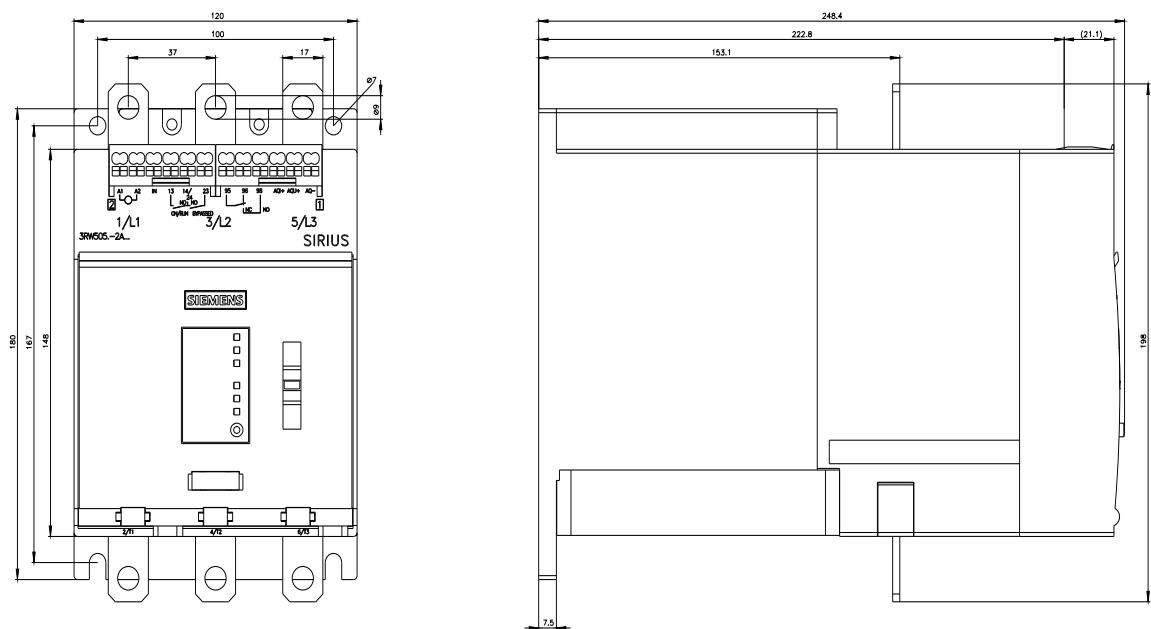
[Explosion Protection Certificate](#)[Type Test Certificates/Test Report](#)

Marine / Shipping	other
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[Confirmation](#)

## Further information

**Information on the packaging**<https://support.industry.siemens.com/cs/ww/en/view/109813875>**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=3RW5055-2AB04>**Cax online generator**<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5055-2AB04>**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**<https://support.industry.siemens.com/cs/ww/en/ps/3RW5055-2AB04>**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5055-2AB04&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5055-2AB04&lang=en)**Characteristic: Tripping characteristics, I<sup>t</sup>t, Let-through current**<https://support.industry.siemens.com/cs/ww/en/ps/3RW5055-2AB04/char>**Characteristic: Installation altitude**<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5055-2AB04&objecttype=14&gridview=view1>**Simulation Tool for Soft Starters (STS)**<https://support.industry.siemens.com/cs/ww/en/view/101494917>





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