

Siemens  
EcoTech



SIRIUS soft starter S2 72 A, 45 kW/500 V, 40 °C 400-600 V AC, 24 V AC/DC  
spring-type terminals



### General technical data

product brand name	SIRIUS
product designation	Soft starter
product feature	
• integrated bypass contact system	Yes
• thyristors	Yes
product function	
• intrinsic device protection	Yes
• motor overload protection	Yes
• evaluation of thermistor motor protection	No
• external reset	Yes
• adjustable current limitation	Yes
• inside-delta circuit	No
product component motor brake output	No
insulation voltage rated value	600 V
degree of pollution	3, acc. to IEC 60947-4-2
blocking voltage of the thyristor maximum	1 600 V
reference code according to EN 61346-2	Q
reference code according to DIN 40719 extended according to IEC 204-2 according to IEC 750	G

### Power Electronics

operational current	
• at 40 °C rated value	72 A
• at 50 °C rated value	62 A
• at 60 °C rated value	60 A
yielded mechanical performance for 3-phase motors	
• at 400 V	
— at standard circuit at 40 °C rated value	37 kW
• at 500 V	
— at standard circuit at 40 °C rated value	45 kW
operating frequency rated value	50 ... 60 Hz
relative negative tolerance of the operating frequency	-10 %
relative positive tolerance of the operating frequency	10 %
operating voltage at standard circuit rated value	400 ... 600 V
relative negative tolerance of the operating voltage at standard circuit	-15 %
relative positive tolerance of the operating voltage at	10 %

<b>standard circuit</b>	
<b>minimum load [%]</b>	20 %
<b>adjustable motor current for motor overload protection minimum rated value</b>	35 A
<b>continuous operating current [% of I<sub>e</sub>] at 40 °C</b>	115 %
<b>power loss [W] at operational current at 40 °C during operation typical</b>	15 W
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	AC/DC
<b>control supply voltage frequency 1 rated value</b>	50 Hz
<b>control supply voltage frequency 2 rated value</b>	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 1 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 1 at DC rated value</b>	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>display version for fault signal</b>	red
<b>Mechanical data</b>	
<b>size of engine control device</b>	S2
<b>width</b>	55 mm
<b>height</b>	160 mm
<b>depth</b>	170 mm
<b>fastening method</b>	screw and snap-on mounting
<b>mounting position</b>	With additional fan: With vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back Without additional fan: With vertical mounting surface +/-10° rotatable, with vertical mounting surface +/- 10° t
<b>required spacing with side-by-side mounting</b>	
• upwards	60 mm
• at the side	30 mm
• downwards	40 mm
<b>wire length maximum</b>	300 m
<b>number of poles for main current circuit</b>	3
<b>Connections/ Terminals</b>	
<b>type of electrical connection</b>	
• for main current circuit	screw-type terminals
• for auxiliary and control circuit	spring-loaded terminals
<b>number of NC contacts for auxiliary contacts</b>	0
<b>number of NO contacts for auxiliary contacts</b>	2
<b>number of CO contacts for auxiliary contacts</b>	1
<b>type of connectable conductor cross-sections for main contacts for box terminal using the front clamping point</b>	
• solid	2x (1.5 ... 16 mm <sup>2</sup> )
• finely stranded with core end processing	0.75 ... 25 mm <sup>2</sup>
• stranded	0.75 ... 35 mm <sup>2</sup>
<b>type of connectable conductor cross-sections for main contacts for box terminal using the back clamping point</b>	
• solid	2x (1.5 ... 16 mm <sup>2</sup> )

<ul style="list-style-type: none"> <li>finely stranded with core end processing</li> </ul>	1.5 ... 25 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>stranded</li> </ul>	1.5 ... 35 mm <sup>2</sup>
<b>type of connectable conductor cross-sections for main contacts for box terminal using both clamping points</b> <ul style="list-style-type: none"> <li>solid</li> <li>finely stranded with core end processing</li> <li>stranded</li> </ul>	2x (1.5 ... 16 mm <sup>2</sup> ) 2x (1.5 ... 16 mm <sup>2</sup> ) 2x (1.5 ... 25 mm <sup>2</sup> )
<b>type of connectable conductor cross-sections for AWG cables for main contacts for box terminal</b> <ul style="list-style-type: none"> <li>using the back clamping point</li> <li>using the front clamping point</li> <li>using both clamping points</li> </ul>	16 ... 2 18 ... 2 2x (16 ... 2)
<b>type of connectable conductor cross-sections for auxiliary contacts</b> <ul style="list-style-type: none"> <li>solid</li> <li>finely stranded with core end processing</li> </ul>	2x (0.25 ... 2.5 mm <sup>2</sup> ) 2x (0.25 ... 1.5 mm <sup>2</sup> )
<b>type of connectable conductor cross-sections for AWG cables</b> <ul style="list-style-type: none"> <li>for auxiliary contacts</li> </ul>	2x (24 ... 14)

<b>Ambient conditions</b>	
<b>installation altitude at height above sea level</b>	5 000 m
<b>environmental category</b> <ul style="list-style-type: none"> <li>during transport according to IEC 60721</li> <li>during storage according to IEC 60721</li> <li>during operation according to IEC 60721</li> </ul>	2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m) 1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4 3K6 (no formation of ice, no condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
<b>ambient temperature</b> <ul style="list-style-type: none"> <li>during operation</li> <li>during storage</li> </ul>	-25 ... +60 °C -40 ... +80 °C
<b>derating temperature</b>	40 °C
<b>protection class IP on the front according to IEC 60529</b>	IP20
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front

<b>UL/CSA ratings</b>	
<b>yielded mechanical performance [hp] for 3-phase AC motor</b> <ul style="list-style-type: none"> <li>at 460/480 V               <ul style="list-style-type: none"> <li>at standard circuit at 50 °C rated value</li> </ul> </li> <li>at 575/600 V               <ul style="list-style-type: none"> <li>at standard circuit at 50 °C rated value</li> </ul> </li> </ul>	40 hp 60 hp
<b>contact rating of auxiliary contacts according to UL</b>	B300 / R300

<b>Approvals Certificates</b>	
Environmental Product Declaration	
<ul style="list-style-type: none"> <li>global warming potential [CO<sub>2</sub> eq] / during manufacturing</li> <li>global warming potential [CO<sub>2</sub> eq] / during sales</li> <li>global warming potential [CO<sub>2</sub> eq] / during operation</li> <li>global warming potential [CO<sub>2</sub> eq] / after end of life</li> <li>global warming potential [CO<sub>2</sub> eq] / total</li> </ul>	26.9 kg 0.324 kg 158 kg -4.56 kg 181 kg

<b>Environment</b>	<b>General Product Approval</b>
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[Environmental Confirmations](#)



Siemens EcoTech



<b>General Product Approval</b>	<b>EMV</b>	<b>For use in hazardous locations</b>
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Test Certificates	Maritime application	other
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[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



[Confirmation](#)

other	Railway
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[Confirmation](#)



[Special Test Certificate](#)

[Confirmation](#)

**Further information**

**Simulation Tool for Soft Starters (STS)**

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

**Information on the packaging**

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

**Information for data generation and storage**

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

**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=3RW4038-2BB05>

**Cax online generator**

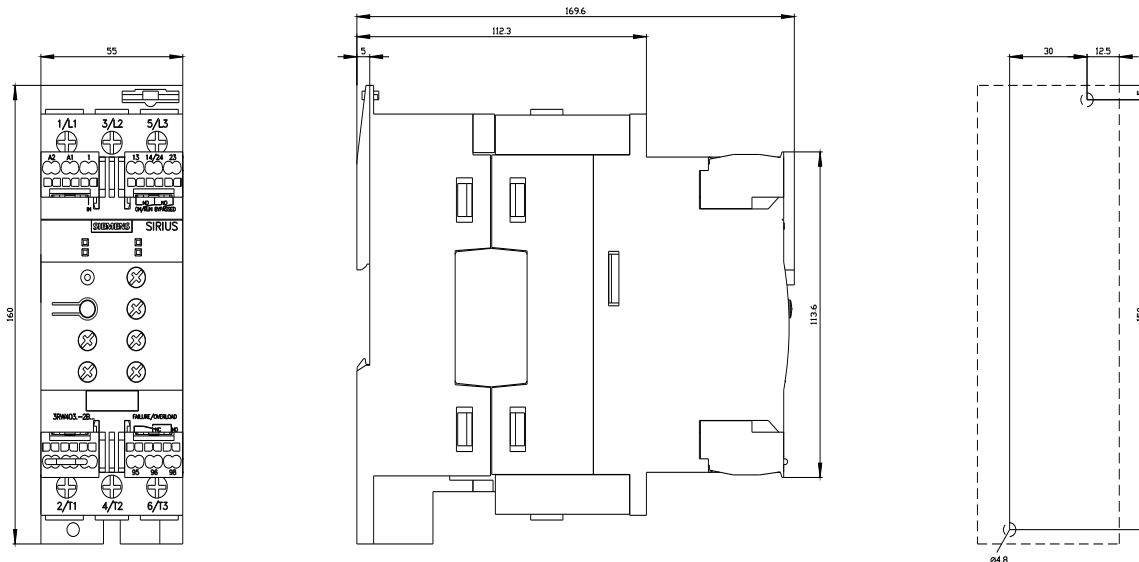
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4038-2BB05>

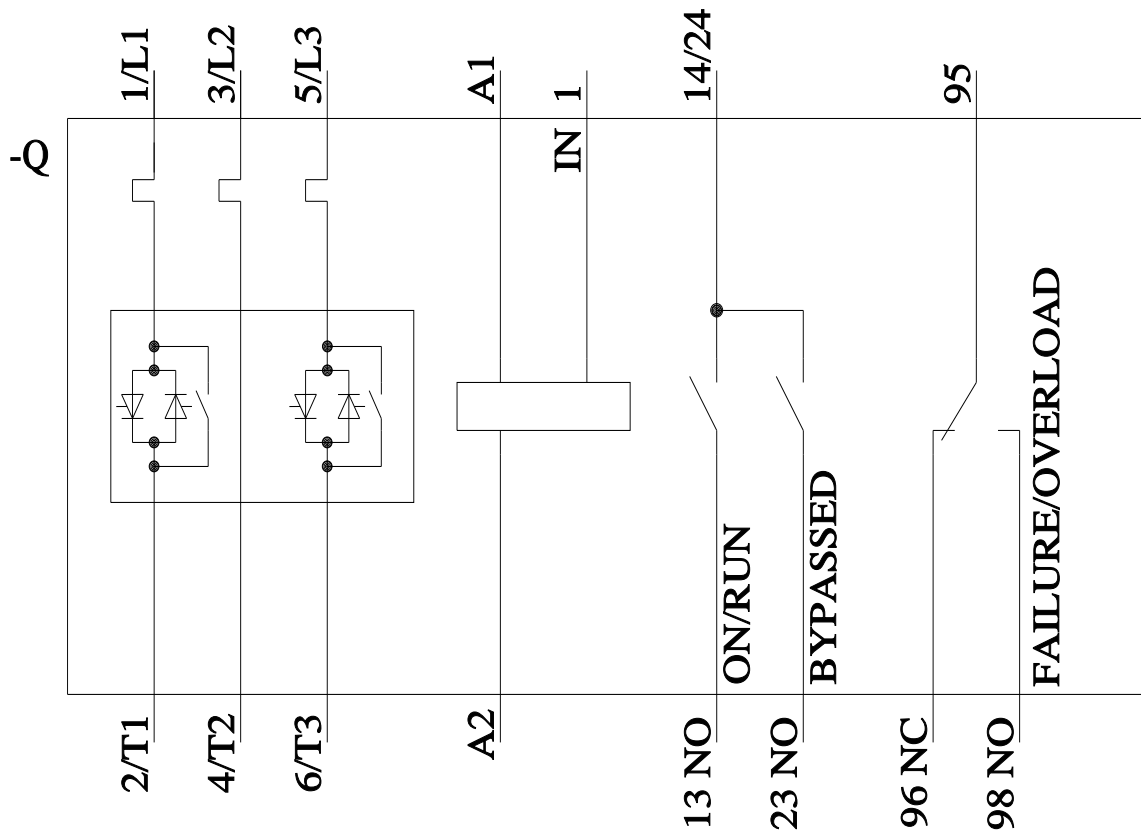
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

<https://support.industry.siemens.com/cs/ww/en/ps/3RW4038-2BB05>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW4038-2BB05&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4038-2BB05&lang=en)





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