



SIRIUS soft starter S3 80 A, 45 kW/400 V, 40 °C 200-480 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	V	600
degree of pollution		3, acc. to IEC 60947-4-2
blocking voltage of the thyristor maximum	V	1 600
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	A	80
• at 50 °C rated value	A	73
• at 60 °C rated value	A	66
yielded mechanical performance for 3-phase motors		
• at 230 V		
— at standard circuit at 40 °C rated value	kW	22
• at 400 V		
— at standard circuit at 40 °C rated value	kW	45
yielded mechanical performance [hp] for 3-phase AC motor at 200/208 V at standard circuit at 50 °C rated value	hp	20
operating frequency rated value	Hz	50 ... 60
relative negative tolerance of the operating frequency	%	-10
relative positive tolerance of the operating frequency	%	10
operating voltage at standard circuit rated value	V	200 ... 480
relative negative tolerance of the operating voltage at standard circuit	%	-15
relative positive tolerance of the operating voltage at standard circuit	%	10
minimum load [%]	%	20

adjustable motor current for motor overload protection minimum rated value	A	43
continuous operating current [% of I <sub>e</sub> ] at 40 °C	%	115
power loss [W] at operational current at 40 °C during operation typical	W	12
<b>Control circuit/ Control</b>		
type of voltage of the control supply voltage		AC/DC
control supply voltage frequency 1 rated value	Hz	50
control supply voltage frequency 2 rated value	Hz	60
relative negative tolerance of the control supply voltage frequency	%	-10
relative positive tolerance of the control supply voltage frequency	%	10
control supply voltage 1 at AC		
• at 50 Hz rated value	V	24
• at 60 Hz rated value	V	24
relative negative tolerance of the control supply voltage at AC at 50 Hz	%	-15
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 voltage at AC at 60 Hz	%	10
control supply voltage 1 at DC rated value	V	24
relative negative tolerance of the control supply voltage at DC	%	-20
relative positive tolerance of the control supply voltage at DC	%	20
display version for fault signal		red
<b>Mechanical data</b>		
size of engine control device		S3
width	mm	70
height	mm	170
depth	mm	190
fastening method		screw and snap-on mounting
mounting position		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
required spacing with side-by-side mounting		
• upwards	mm	60
• at the side	mm	30
• downwards	mm	40
wire length maximum	m	300
number of poles for main current circuit		3
<b>Connections/ Terminals</b>		
type of electrical connection		
• for main current circuit		screw-type terminals
• for auxiliary and control circuit		spring-loaded terminals
number of NC contacts for auxiliary contacts		0
number of NO contacts for auxiliary contacts		2
number of CO contacts for auxiliary contacts		1
type of connectable conductor cross-sections for main contacts for box terminal using the front clamping point		
• solid		2x (2.5 ... 16 mm <sup>2</sup> )
• finely stranded with core end processing		2.5 ... 35 mm <sup>2</sup>
• stranded		4 ... 70 mm <sup>2</sup>
type of connectable conductor cross-sections for main contacts for box terminal using the back clamping point		
• solid		2x (2.5 ... 16 mm <sup>2</sup> )
• finely stranded with core end processing		2.5 ... 50 mm <sup>2</sup>
• stranded		10 ... 70 mm <sup>2</sup>
type of connectable conductor cross-sections for main contacts for box terminal using both clamping points		

<ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> <li>• stranded</li> </ul>		2x (2.5 ... 16 mm <sup>2</sup> ) 2x (2.5 ... 35 mm <sup>2</sup> ) 2x (10 ... 50 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>		2x (10 ... 1/0) 2x (10 ... 1/0) 10 ... 2/0
<b>type of connectable conductor cross-sections for DIN cable lug for main contacts</b> <ul style="list-style-type: none"> <li>• finely stranded</li> <li>• stranded</li> </ul>		2 x (10 ... 50 mm <sup>2</sup> ) 2x (10 ... 70 mm <sup>2</sup> )
<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 main contacts</li> <li>• for auxiliary contacts</li> </ul>		2x (7 ... 1/0) 2x (24 ... 14)

#### Ambient conditions

<b>installation altitude at height above sea level</b>	m	5 000
<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>	°C	-25 ... +60
	°C	-40 ... +80
<b>derating temperature</b>	°C	40
<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

#### Environmental footprint

Environmental Product Declaration (EPD)		Yes
global warming potential [CO <sub>2</sub> eq] total	kg	175
global warming potential [CO <sub>2</sub> eq] during manufacturing	kg	23.7
global warming potential [CO <sub>2</sub> eq] during sales	kg	0.471
global warming potential [CO <sub>2</sub> eq] during operation	kg	158
global warming potential [CO <sub>2</sub> eq] after end of life	kg	-6.65

#### UL/CSA ratings

<b>yielded mechanical performance [hp] for 3-phase AC motor</b> <ul style="list-style-type: none"> <li>• at 220/230 V           <ul style="list-style-type: none"> <li>— at standard circuit at 50 °C rated value</li> </ul> </li> <li>• at 460/480 V           <ul style="list-style-type: none"> <li>— at standard circuit at 50 °C rated value</li> </ul> </li> </ul>	hp	25
	hp	50
<b>contact rating of auxiliary contacts according to UL</b>		B300 / R300

#### Approvals Certificates

General Product Approval	EMV
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EMV	For use in hazardous locations	Test Certificates	Maritime application
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[KC](#)



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Maritime application	other	Railway
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[Confirmation](#)

[Special Test Certificate](#)

[Confirmation](#)

Environment



Siemens EcoTech



[Environmental Confirmations](#)

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=3RW4046-2BB04>

**Cax online generator**

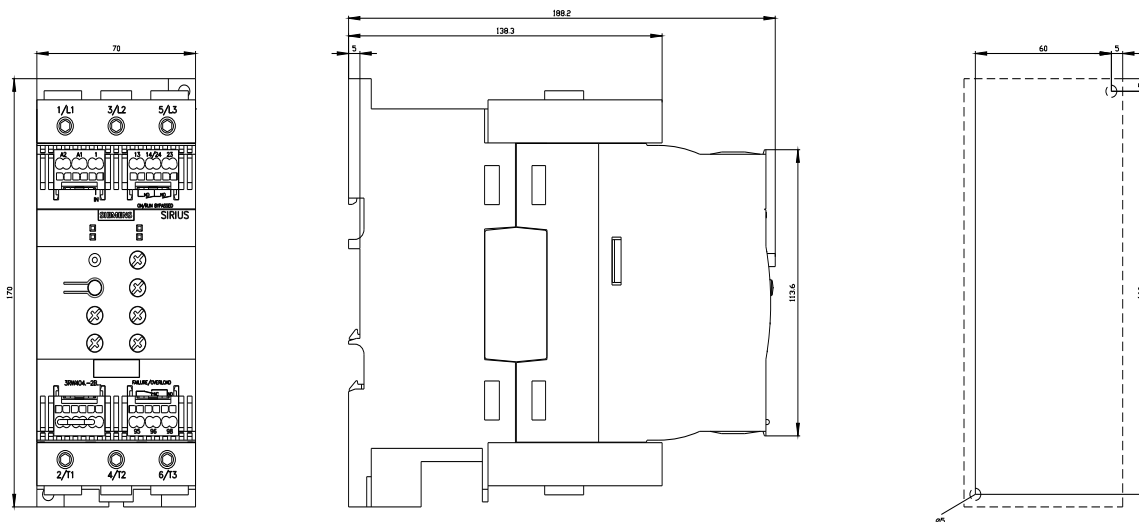
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4046-2BB04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW4046-2BB04>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW4046-2BB04&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4046-2BB04&lang=en)





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