

SIRIUS soft starter S3 80 A, 55 kW/500 V, 40 °C 400-600 V AC, 24 V AC/DC spring-type terminals



### General technical data

Product brand name		SIRIUS
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
Reference code acc. to DIN EN 61346-2		Q
Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750		G

Power Electronics		
<b>Product designation</b>		Soft starter
<b>Operating current</b>		
• at 40 °C rated value	A	80
• at 50 °C rated value	A	73
• at 60 °C rated value	A	66
<b>Mechanical power output for three-phase motors</b>		
• at 400 V — at standard circuit at 40 °C rated value	W	45 000
• at 500 V — at standard circuit at 40 °C rated value	W	55 000
<b>Operating frequency rated value</b>	Hz	50 ... 60
<b>Relative negative tolerance of the operating frequency</b>	%	-10
<b>Relative positive tolerance of the operating frequency</b>	%	10
<b>Operating voltage at standard circuit rated value</b>	V	400 ... 600
<b>Relative negative tolerance of the operating voltage at standard circuit</b>	%	-15
<b>Relative positive tolerance of the operating voltage at standard circuit</b>	%	10
<b>Minimum load [%]</b>	%	20
<b>Adjustable motor current for motor overload protection minimum rated value</b>	A	43
<b>Continuous operating current [% of <math>I_e</math>] at 40 °C</b>	%	115
<b>Power loss [W] at operating current at 40 °C during operation typical</b>	W	12

Control circuit/ Control		
<b>Type of voltage of the control supply voltage</b>		AC/DC
<b>Control supply voltage frequency 1 rated value</b>	Hz	50
<b>Control supply voltage frequency 2 rated value</b>	Hz	60
<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	V	24
• at 60 Hz rated value	V	24
<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

Relative positive tolerance of the control supply voltage at AC at 60 Hz	%	20
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

Mechanical data		
Size of engine control device		S3
Width	mm	70
Height	mm	170
Depth	mm	190
Mounting type		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

Connections/ Terminals		
Type of electrical connection		
• for main current circuit		screw-type terminals
• for auxiliary and control current 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		
• solid		2x (2.5 ... 16 mm <sup>2</sup> )
• finely stranded with core end processing		2x (2.5 ... 35 mm <sup>2</sup> )
• stranded		2x (10 ... 50 mm <sup>2</sup> )
Type of connectable conductor cross-sections at AWG conductors for main contacts for box terminal		
• using the back clamping point		2x (10 ... 1/0)
• using the front clamping point		2x (10 ... 1/0)
• using both clamping points		10 ... 2/0
Type of connectable conductor cross-sections for DIN cable lug for main contacts		
• finely stranded		2 x (10 ... 50 mm <sup>2</sup> )
• stranded		2x (10 ... 70 mm <sup>2</sup> )
Type of connectable conductor cross-sections for auxiliary contacts		
• solid		2x (0.25 ... 2.5 mm <sup>2</sup> )
• finely stranded with core end processing		2x (0.25 ... 1.5 mm <sup>2</sup> )
Type of connectable conductor cross-sections at AWG conductors		
• for main contacts		2x (7 ... 1/0)
• for auxiliary contacts		2x (24 ... 14)

Ambient conditions		
Installation altitude at height above sea level	m	5 000
Environmental category		
• during transport acc. to IEC 60721		2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)
• during storage acc. to IEC 60721		1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4
• during operation acc. to IEC 60721		3K6 (no formation of ice, no condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
Ambient temperature		
• during operation	°C	-25 ... +60
• during storage	°C	-40 ... +80
Derating temperature	°C	40
Protection class IP		IP00

Certificates/ approvals		
3RW40 46-2BB05		Subject to change without notice © Copyright Siemens

General Product Approval	EMC	For use in hazardous locations
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CCC



CSA



UL



RCM



ATEX

Declaration of Conformity	Test Certificates	Marine / Shipping
EG-Konf.	<a href="#">Miscellaneous</a> <a href="#">Special Test Certificate</a> <a href="#">Type Test Certificates/Test Report</a>	 LRS

Marine / Shipping	other	Railway
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[Confirmation](#)

[Vibration and Shock](#)

#### UL/CSA ratings

**Yielded mechanical performance [hp] for three-phase**

**AC motor**

• **at 460/480 V**

— at standard circuit at 50 °C rated value

hp

50

• **at 575/600 V**

— at standard circuit at 50 °C rated value

hp

60

**Contact rating of auxiliary contacts according to UL**

B300 / R300

#### Further information

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

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

**Information- and Downloadcenter (Catalogs, Brochures,...)**

[www.siemens.com/sirius/catalogs](http://www.siemens.com/sirius/catalogs)

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RW4046-2BB05>

**Cax online generator**

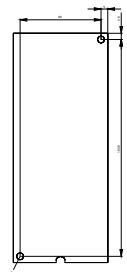
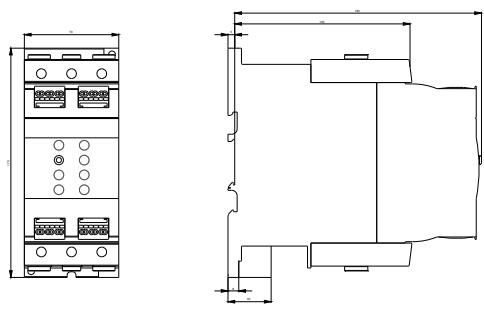
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4046-2BB05>

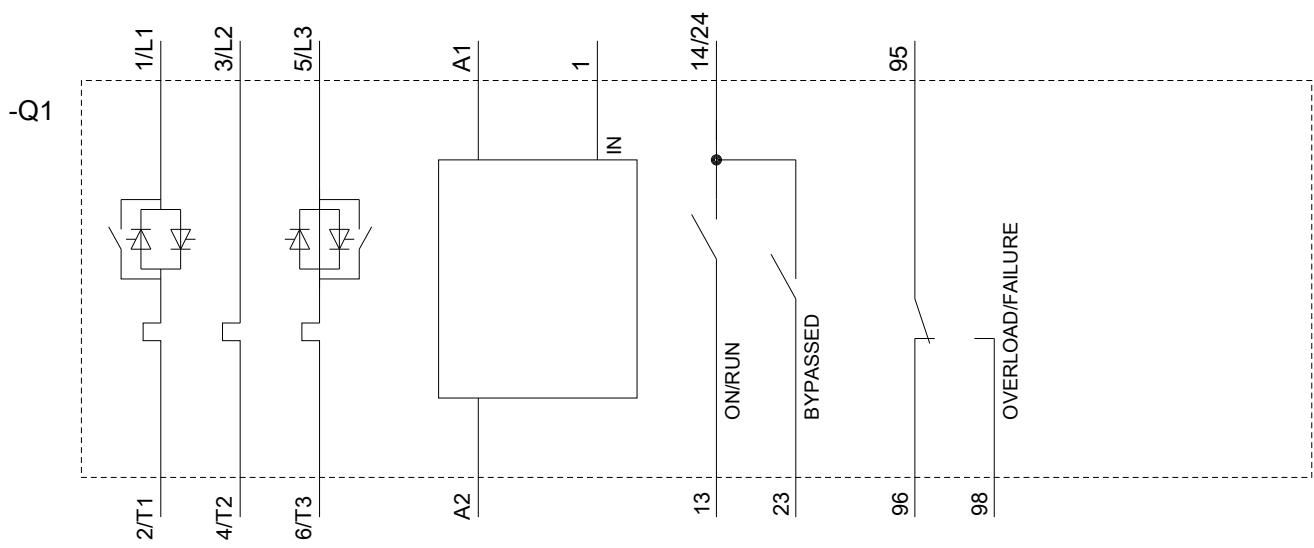
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

<https://support.industry.siemens.com/cs/ww/en/ps/3RW4046-2BB05>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW4046-2BB05&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4046-2BB05&lang=en)





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