



SIRIUS soft starter Values at 690 V, 40 °C standard: 93 A, 90 kW Inside-delta: only up to 600 V 400-690 V AC, 230 V AC Screw terminals !!! Phased-out product !!! Successor is SIRIUS 3RW5, Preferred successor type is >>3RW5527-1HA16<<

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		Yes
• external reset		Yes
• adjustable current limitation		Yes
• inside-delta circuit		Yes
product component motor brake output		Yes
insulation voltage rated value	V	690
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		
product designation		Soft starter
operational current		
• at 40 °C rated value	A	93
• at 50 °C rated value	A	82
• at 60 °C rated value	A	72
operational current for 3-phase motors at inside-delta circuit		
• at 40 °C rated value	A	161
• at 50 °C rated value	A	142
• at 60 °C rated value	A	125
yielded mechanical performance for 3-phase motors		
• at 400 V		
— at standard circuit at 40 °C rated value	W	45 000
— at inside-delta circuit at 40 °C rated value	W	90 000
• at 500 V		
— at standard circuit at 40 °C rated value	W	55 000
— at inside-delta circuit at 40 °C rated value	W	110 000
• at 690 V at standard circuit at 40 °C rated value	W	90 000
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	400 ... 690
relative negative tolerance of the operating voltage at standard circuit	%	-15
relative positive tolerance of the operating voltage at standard circuit	%	10
operating voltage at inside-delta circuit rated value	V	400 ... 600
relative negative tolerance of the operating voltage at inside-delta circuit	%	-15
relative positive tolerance of the operating voltage at inside-delta circuit	%	10
minimum load [%]	%	8
adjustable motor current for motor overload protection minimum rated value	A	18
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	55
<b>Control circuit/ Control</b>		
type of voltage of the control supply voltage		AC
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	230
• at 60 Hz rated value	V	230
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
display version for fault signal		Display
<b>Mechanical data</b>		
width	mm	170
height	mm	192
depth	mm	270
fastening method		screw fixing
mounting position		with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
required spacing with side-by-side mounting		
• upwards	mm	100
• at the side	mm	5
• downwards	mm	75
wire length maximum	m	500
number of poles for main current circuit		3
<b>Connections/ Terminals</b>		
type of electrical connection		
• for main current circuit		box terminal
• for auxiliary and control circuit		screw-type terminals
number of NC contacts for auxiliary contacts		0
number of NO contacts for auxiliary contacts		3
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		

<ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> <li>• finely stranded without core end processing</li> <li>• stranded</li> </ul>		2.5 ... 16 mm <sup>2</sup> 2.5 ... 35 mm <sup>2</sup> 4 ... 50 mm <sup>2</sup> 4 ... 70 mm <sup>2</sup>
<b>type of connectable conductor cross-sections for main contacts for box terminal using the back clamping point</b> <ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> <li>• finely stranded without core end processing</li> <li>• stranded</li> </ul>		2,5 ... 16 mm <sup>2</sup> 2.5 ... 50 mm <sup>2</sup> 10 ... 50 mm <sup>2</sup> 10 ... 70 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>• finely stranded without 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 (4 ... 35 mm <sup>2</sup> ) 2x (4 ... 50 mm <sup>2</sup> )
<b>type of connectable conductor cross-sections at 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>		10 ... 2/0 10 ... 2/0 2x (10 ... 1/0)
<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 (0.5 ... 2.5 mm <sup>2</sup> ) 2x (0.5 ... 1.5 mm <sup>2</sup> )
<b>type of connectable conductor cross-sections at AWG cables</b> <ul style="list-style-type: none"> <li>• for auxiliary contacts</li> <li>• for auxiliary contacts finely stranded with core end processing</li> </ul>		2x (20 ... 14) 2x (20 ... 16)

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 acc. to IEC 60721</li> <li>• during storage acc. to IEC 60721</li> <li>• during operation acc. 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	60
	°C	-25 ... +80
<b>derating temperature</b>	°C	40
<b>protection class IP on the front acc. to IEC 60529</b>		IP20
<b>touch protection on the front acc. to IEC 60529</b>		finger-safe, for vertical contact from the front

Certificates/ approvals		
General Product Approval	EMC	Declaration of Conformity



Test Certificates	Marine / Shipping
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## Marine / Shipping

**other**



## Confirmation

## UL/CSA ratings

yielded mechanical performance [hp] for 3-phase AC motor

- at 460/480 V

- at standard circuit at 50 °C rated value
- at inside-delta circuit at 50 °C rated value

hp	60
hp	100

- at 575/600 V

- at standard circuit at 50 °C rated value
- at inside-delta circuit at 50 °C rated value

hp	75
hp	125

**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,...)

<https://www.siemens.com/ic10>

### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RW4427-1BC46>

## Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4427-1BC46>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW4427-1BC46>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW4427-1BC46&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4427-1BC46&lang=en)



