



SIRIUS soft starter Values at 690 V, 40 °C standard: 29 A, 30 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 >>3RW5524-1HA16<<

General technical data	
product brand name	SIRIUS
product designation	Soft starter
product feature	
<ul style="list-style-type: none"> integrated bypass contact system 	Yes
<ul style="list-style-type: none"> thyristors 	Yes
product function	
<ul style="list-style-type: none"> intrinsic device protection 	Yes
<ul style="list-style-type: none"> motor overload protection 	Yes
<ul style="list-style-type: none"> evaluation of thermistor motor protection 	Yes
<ul style="list-style-type: none"> external reset 	Yes
<ul style="list-style-type: none"> adjustable current limitation 	Yes
<ul style="list-style-type: none"> inside-delta circuit 	Yes
product component motor brake output	Yes
insulation voltage rated value	690 V
degree of pollution	3, acc. to IEC 60947-4-2
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	
<ul style="list-style-type: none"> at 40 °C rated value 	29 A
<ul style="list-style-type: none"> at 50 °C rated value 	26 A
<ul style="list-style-type: none"> at 60 °C rated value 	23 A
operational current for 3-phase motors at inside-delta circuit	
<ul style="list-style-type: none"> at 40 °C rated value 	50 A
<ul style="list-style-type: none"> at 50 °C rated value 	45 A
<ul style="list-style-type: none"> at 60 °C rated value 	40 A
yielded mechanical performance for 3-phase motors	
<ul style="list-style-type: none"> at 400 V <ul style="list-style-type: none"> at standard circuit at 40 °C rated value at inside-delta circuit at 40 °C rated value 	15 kW 22 kW
<ul style="list-style-type: none"> at 500 V <ul style="list-style-type: none"> at standard circuit at 40 °C rated value at inside-delta circuit at 40 °C rated value 	18.5 kW 30 kW
<ul style="list-style-type: none"> at 690 V at standard circuit at 40 °C rated value 	30 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 ... 690 V
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	400 ... 600 V
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	5 A
continuous operating current [% of I _e] at 40 °C	115 %
power loss [W] at operational current at 40 °C during operation typical	8 W
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage frequency 1 rated value	50 Hz
control supply voltage frequency 2 rated value	60 Hz
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	230 V
• at 60 Hz rated value	230 V
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
Mechanical data	
width	170 mm
height	192 mm
depth	270 mm
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	100 mm
• at the side	5 mm
• downwards	75 mm
wire length maximum	500 m
number of poles for main current circuit	3
Connections/ Terminals	
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	
• solid	2.5 ... 16 mm ²
• finely stranded with core end processing	2.5 ... 35 mm ²
• finely stranded without core end processing	4 ... 50 mm ²
• stranded	4 ... 70 mm ²
type of connectable conductor cross-sections for main	

contacts for box terminal using the back clamping point	
<ul style="list-style-type: none"> • solid • finely stranded with core end processing • finely stranded without core end processing • stranded 	<p>2,5 ... 16 mm²</p> <p>2.5 ... 50 mm²</p> <p>10 ... 50 mm²</p> <p>10 ... 70 mm²</p>
type of connectable conductor cross-sections for main contacts for box terminal using both clamping points	
<ul style="list-style-type: none"> • solid • finely stranded with core end processing • finely stranded without core end processing • stranded 	<p>2x (2.5 ... 16 mm²)</p> <p>2x (2.5 ... 35 mm²)</p> <p>2x (4 ... 35 mm²)</p> <p>2x (4 ... 50 mm²)</p>
type of connectable conductor cross-sections for AWG cables for main contacts for box terminal	
<ul style="list-style-type: none"> • using the back clamping point • using the front clamping point • using both clamping points 	<p>10 ... 2/0</p> <p>10 ... 2/0</p> <p>2x (10 ... 1/0)</p>
type of connectable conductor cross-sections for auxiliary contacts	
<ul style="list-style-type: none"> • solid • finely stranded with core end processing 	<p>2x (0.5 ... 2.5 mm²)</p> <p>2x (0.5 ... 1.5 mm²)</p>
type of connectable conductor cross-sections for AWG cables	
<ul style="list-style-type: none"> • for auxiliary contacts • for auxiliary contacts finely stranded with core end processing 	<p>2x (20 ... 14)</p> <p>2x (20 ... 16)</p>

Ambient conditions

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

UL/CSA ratings

yielded mechanical performance [hp] for 3-phase AC motor	
<ul style="list-style-type: none"> • at 460/480 V <ul style="list-style-type: none"> — at standard circuit at 50 °C rated value — at inside-delta circuit at 50 °C rated value • at 575/600 V <ul style="list-style-type: none"> — at standard circuit at 50 °C rated value — at inside-delta circuit at 50 °C rated value 	<p>15 hp</p> <p>30 hp</p> <p>20 hp</p> <p>40 hp</p>
contact rating of auxiliary contacts according to UL	B300 / R300

Approvals Certificates

Environment	General Product Approval
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[Environmental Con-
firmations](#)



EMV	Test Certificates	Maritime application
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[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Maritime application

other



[Confirmation](#)

[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=3RW4422-1BC46>

Cax online generator

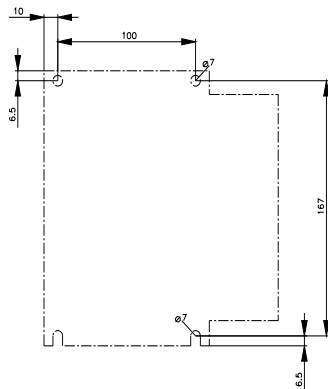
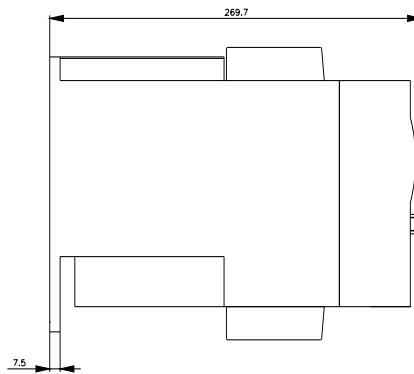
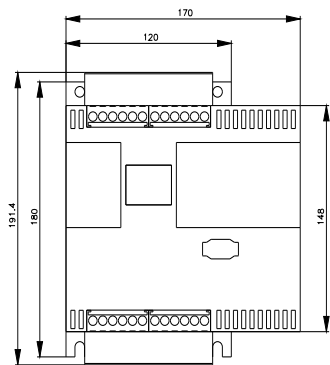
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4422-1BC46>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW4422-1BC46>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4422-1BC46&lang=en





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