

SIRIUS soft starter Values at 500 V, 40 °C Standard: 29 A, 18.5 kW Inside-delta: 50 A, 30 kW 400-600 V AC, 230 V AC Screw terminals



General technical data

Product brand name		SIRIUS
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	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
Operating current		
• at 40 °C rated value	A	29
• at 50 °C rated value	A	26
• at 60 °C rated value	A	23
Operating current for three-phase motors at inside-delta circuit		
• at 40 °C rated value	A	50
• at 50 °C rated value	A	45
• at 60 °C rated value	A	40
Mechanical power output for three-phase motors		
• at 400 V		
— at standard circuit at 40 °C rated value	W	15 000
— at inside-delta circuit at 40 °C rated value	W	22 000
• at 500 V		
— at standard circuit at 40 °C rated value	W	18 500
— at inside-delta circuit at 40 °C rated value	W	30 000
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 ... 600
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	5
Continuous operating current [% of I_e] at 40 °C	%	115
Power loss [W] at operating current at 40 °C during operation typical	W	8

Control electronics

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

Mechanical data

Width	mm	170
(height)	mm	192
Depth	mm	270
(mounting type)		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

Connections/Terminals

Type of electrical connection		
• for main current circuit		box terminal
• for auxiliary and control current 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 		2,5 ... 16 mm ² 2.5 ... 50 mm ² 10 ... 50 mm ² 10 ... 70 mm ²
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 		2x (2.5 ... 16 mm ²) 2x (2.5 ... 35 mm ²) 2x (4 ... 35 mm ²) 2x (4 ... 50 mm ²)
Type of connectable conductor cross-sections at AWG conductors 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 		10 ... 2/0 10 ... 2/0 2x (10 ... 1/0)
Type of connectable conductor cross-sections for auxiliary contacts <ul style="list-style-type: none"> • solid • finely stranded with core end processing 		2x (0.5 ... 2.5 mm ²) 2x (0.5 ... 1.5 mm ²)
Type of connectable conductor cross-sections at AWG conductors <ul style="list-style-type: none"> • for auxiliary contacts • for auxiliary contacts finely stranded with core end processing 		2x (20 ... 14) 2x (20 ... 16)

Ambient conditions

Installation altitude at height above sea level	m	5 000
Environmental category <ul style="list-style-type: none"> • during transport acc. to IEC 60721 • during storage acc. to IEC 60721 • during operation acc. to IEC 60721 		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
Ambient temperature <ul style="list-style-type: none"> • during operation • during storage 	°C °C	60 -25 ... +80
(derating temperature)	°C	40
Protection class IP		IP00

Certificates/approvals

General Product Approval	EMC	Declaration of Conformity
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CCC



CSA



UL



RCM



EG-Konf.

Declaration of Conformity	Test Certificates	Shipping Approval
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



ABS



BUREAU VERITAS



LRS

Shipping Approval	other
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PRS

[Confirmation](#)

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 15

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

hp 30

• at 575/600 V

— at standard circuit at 50 °C rated value

hp 20

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

hp 40

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,...)

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RW4422-1BC45>

Cax online generator

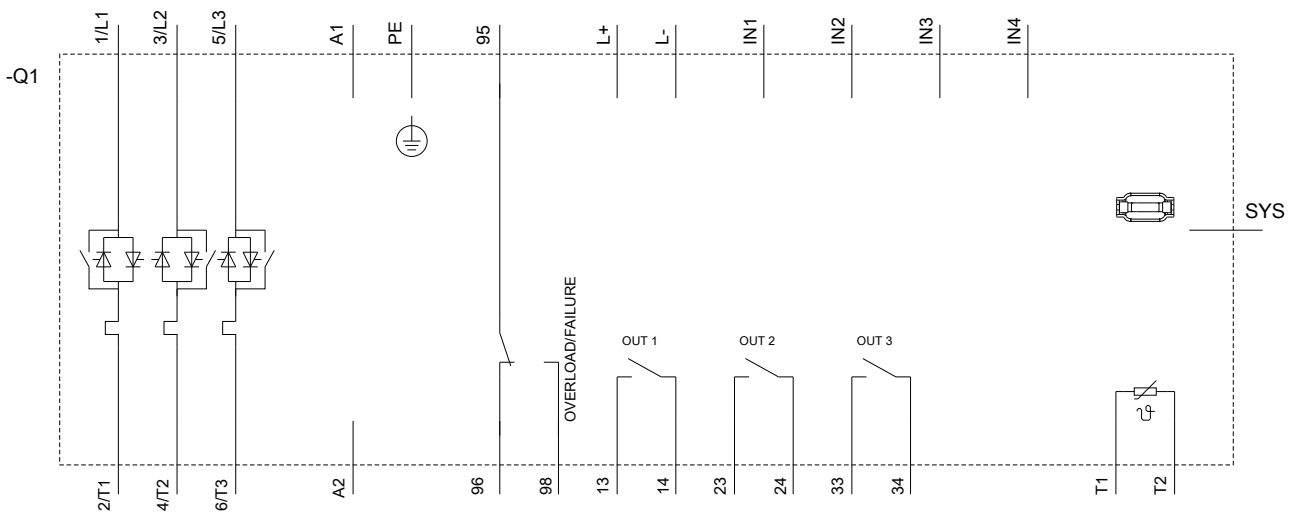
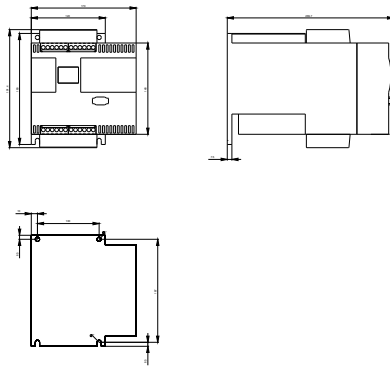
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4422-1BC45>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW4422-1BC45>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4422-1BC45&lang=en



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