



SIRIUS soft starter S3 80 A, 45 kW/400 V, 40 °C 200-480 V AC, 110-230 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	600 V
degree of pollution	3, acc. to IEC 60947-4-2
blocking voltage of the thyristor maximum	1 600 V
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	80 A
• at 50 °C rated value	73 A
• at 60 °C rated value	66 A
yielded mechanical performance for 3-phase motors	
• at 230 V	
— at standard circuit at 40 °C rated value	22 kW
• at 400 V	
— at standard circuit at 40 °C rated value	45 kW
yielded mechanical performance [hp] for 3-phase AC motor at 200/208 V at standard circuit at 50 °C rated value	20 hp
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	200 ... 480 V
relative negative tolerance of the operating voltage at	-15 %

standard circuit	
relative positive tolerance of the operating voltage at standard circuit	10 %
minimum load [%]	20 %
adjustable motor current for motor overload protection minimum rated value	43 A
continuous operating current [% of I_e] at 40 °C	115 %
power loss [W] at operational current at 40 °C during operation typical	12 W
Control circuit/ Control	
type of voltage of the control supply voltage	AC/DC
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	110 ... 230 V
control supply voltage 1 at AC at 60 Hz	110 ... 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 %
control supply voltage 1 at DC	110 ... 230 V
relative negative tolerance of the control supply voltage at DC	-15 %
relative positive tolerance of the control supply voltage at DC	10 %
display version for fault signal	red
Mechanical data	
size of engine control device	S3
width	70 mm
height	170 mm
depth	190 mm
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	60 mm
• at the side	30 mm
• downwards	40 mm
wire length maximum	300 m
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 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 ²)
• finely stranded with core end processing	2.5 ... 35 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 • stranded 	<p>2x (2.5 ... 16 mm²)</p> <p>2.5 ... 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 • stranded 	<p>2x (2.5 ... 16 mm²)</p> <p>2x (2.5 ... 35 mm²)</p> <p>2x (10 ... 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>2x (10 ... 1/0)</p> <p>2x (10 ... 1/0)</p> <p>10 ... 2/0</p>
type of connectable conductor cross-sections for DIN cable lug for main contacts <ul style="list-style-type: none"> • finely stranded • stranded 	<p>2 x (10 ... 50 mm²)</p> <p>2x (10 ... 70 mm²)</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 (0.25 ... 2.5 mm²)</p> <p>2x (0.25 ... 1.5 mm²)</p>
type of connectable conductor cross-sections for AWG cables <ul style="list-style-type: none"> • for main contacts • for auxiliary contacts 	<p>2x (7 ... 1/0)</p> <p>2x (24 ... 14)</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>-25 ... +60 °C</p> <p>-40 ... +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 220/230 V <ul style="list-style-type: none"> — at standard circuit at 50 °C rated value • at 460/480 V <ul style="list-style-type: none"> — at standard circuit at 50 °C rated value 	<p>25 hp</p> <p>50 hp</p>
contact rating of auxiliary contacts according to UL	B300 / R300

Approvals Certificates

Environmental Product Declaration	
<ul style="list-style-type: none"> • global warming potential [CO2 eq] / during manufacturing • global warming potential [CO2 eq] / during sales • global warming potential [CO2 eq] / during operation • global warming potential [CO2 eq] / after end of life • global warming potential [CO2 eq] / total 	<p>23.7 kg</p> <p>0.471 kg</p> <p>158 kg</p> <p>-6.65 kg</p> <p>175 kg</p>

Environment General Product Approval

[Environmental Con-
firmations](#)



Siemens
EcoTech



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

[Type Test Certificates/Test Report](#)



[Confirmation](#)

other	Railway
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[Confirmation](#)



[Special Test Certificate](#)

[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=3RW4046-2BB14>

Cax online generator

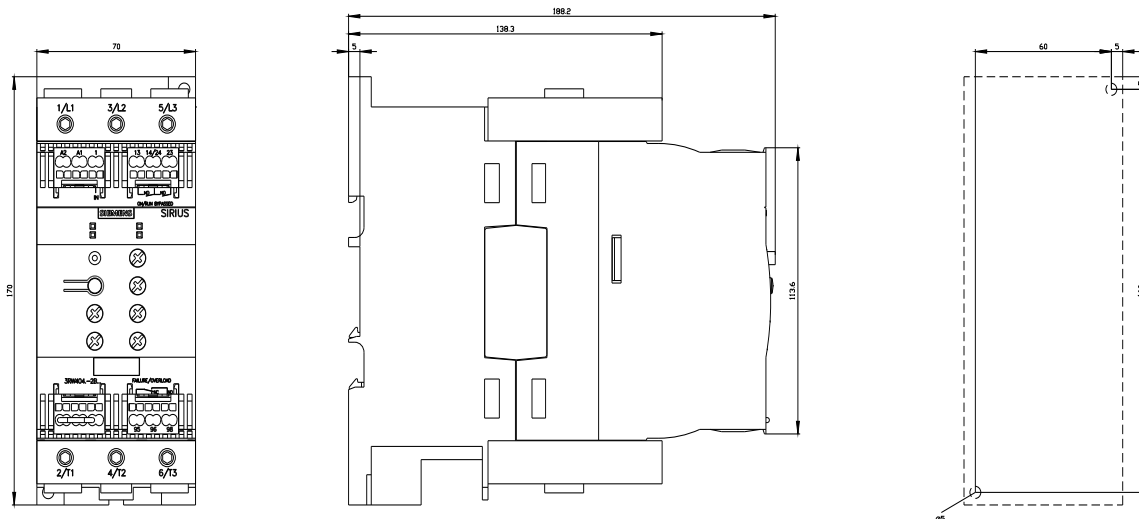
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4046-2BB14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW4046-2BB14>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4046-2BB14&lang=en



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