



SIRIUS soft starter S2 72 A, 45 kW/500 V, 40 °C 400-600 V AC, 24 V AC/DC
Screw terminals Thermistor motor protection

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	Yes
• 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	72 A
• at 50 °C rated value	62 A
• at 60 °C rated value	60 A
yielded mechanical performance for 3-phase motors	
• at 400 V	
— at standard circuit at 40 °C rated value	37 kW
• at 500 V	
— at standard circuit at 40 °C rated value	45 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 ... 600 V
relative negative tolerance of the operating voltage at standard circuit	-15 %
relative positive tolerance of the operating voltage at	10 %

standard circuit	
minimum load [%]	20 %
adjustable motor current for motor overload protection minimum rated value	35 A
continuous operating current [% of I_e] at 40 °C	115 %
power loss [W] at operational current at 40 °C during operation typical	15 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 rated value	24 V
• at 60 Hz rated value	24 V
relative negative tolerance of the control supply voltage at AC at 50 Hz	-20 %
relative positive tolerance of the control supply voltage at AC at 50 Hz	20 %
relative negative tolerance of the control supply voltage at AC at 60 Hz	-20 %
relative positive tolerance of the control supply voltage at AC at 60 Hz	20 %
control supply voltage 1 at DC rated value	24 V
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	S2
width	55 mm
height	160 mm
depth	170 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	screw-type 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 (1.5 ... 16 mm ²)
• finely stranded with core end processing	0.75 ... 25 mm ²
• stranded	0.75 ... 35 mm ²
type of connectable conductor cross-sections for main contacts for box terminal using the back clamping point	
• solid	2x (1.5 ... 16 mm ²)

<ul style="list-style-type: none"> finely stranded with core end processing stranded 	<p>1.5 ... 25 mm²</p> <p>1.5 ... 35 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 (1.5 ... 16 mm²)</p> <p>2x (1.5 ... 16 mm²)</p> <p>2x (1.5 ... 25 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>16 ... 2</p> <p>18 ... 2</p> <p>2x (16 ... 2)</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>-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 460/480 V <ul style="list-style-type: none"> at standard circuit at 50 °C rated value at 575/600 V <ul style="list-style-type: none"> at standard circuit at 50 °C rated value 	<p>40 hp</p> <p>60 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>26.9 kg</p> <p>0.324 kg</p> <p>158 kg</p> <p>-4.56 kg</p> <p>181 kg</p>

Environment	General Product Approval
--------------------	---------------------------------

[Environmental Conformations](#)



General Product Approval	EMV	For use in hazardous locations	Test Certificates
---------------------------------	------------	---------------------------------------	--------------------------



EG-Konf.



RCM



ATEX



IECEX

[Special Test Certificate](#)

Test Certificates Maritime application other

[Type Test Certificates/Test Report](#)



DNV



LRS



PRS

[Confirmation](#)

[Confirmation](#)

other Railway



[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=3RW4038-1TB05>

Cax online generator

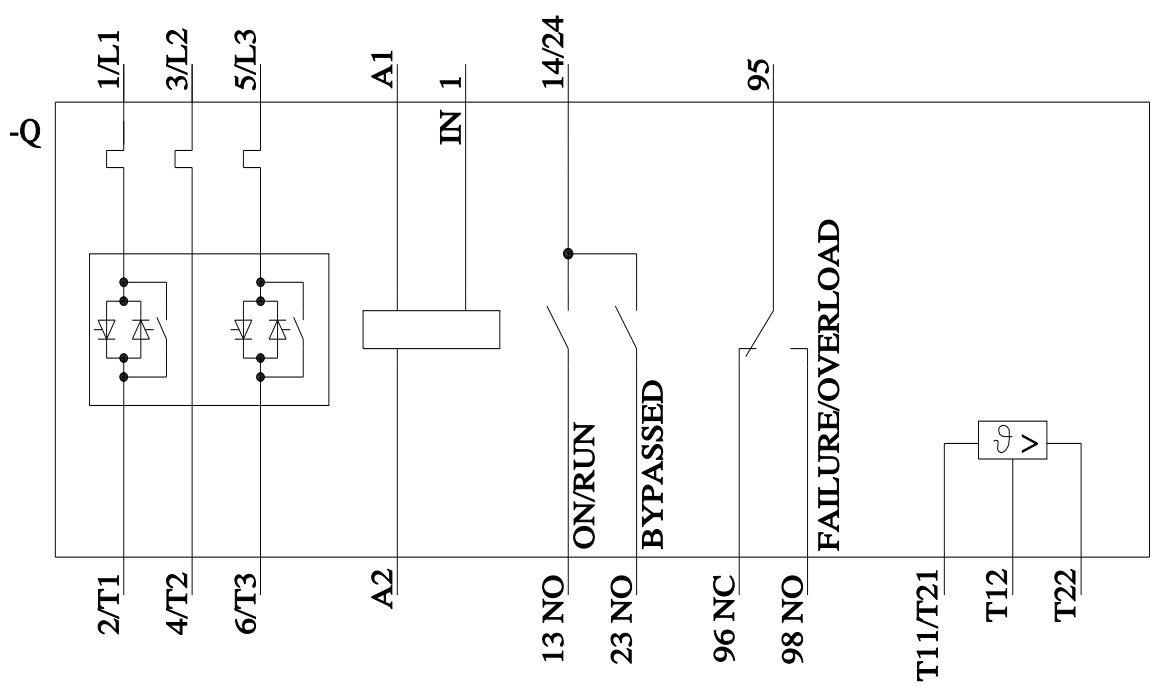
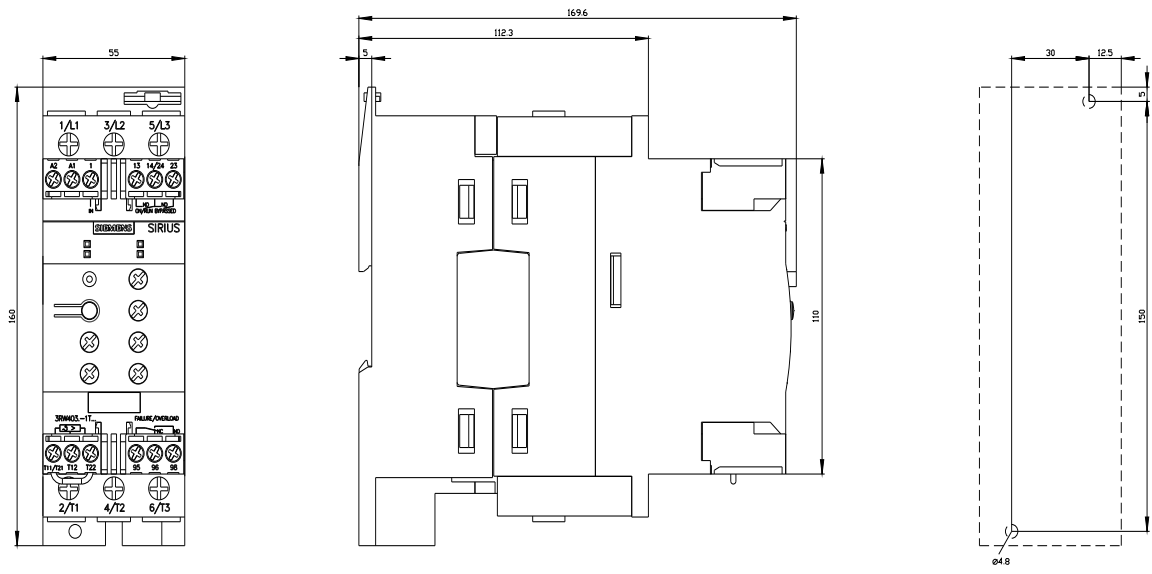
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4038-1TB05>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW4038-1TB05>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4038-1TB05&lang=en



last modified:

2/12/2026