SIEMENS

Data sheet 3RW4046-2TB04



SIRIUS soft starter S3 80 A, 45 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC spring-type 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	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 %

Subject to change without notice
© Copyright Siemens

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 Ie] 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 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	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 mm²)
● finely stranded with core end processing	2.5 ... 35 mm²
● stranded	4 ... 70 mm²
type of connectable conductor cross-sections for main	

Subject to change without notice
© Copyright Siemens

contacts for box terminal using the back clamping point	
● solid	2x (2.5 ... 16 mm²)
● finely stranded with core end processing	2.5 ... 50 mm²
● stranded	10 ... 70 mm²
type of connectable conductor cross-sections for main contacts for box terminal using both clamping points	
● solid	2x (2.5 ... 16 mm²)
● finely stranded with core end processing	2x (2.5 ... 35 mm²)
● stranded	2x (10 ... 50 mm²)
type of connectable conductor cross-sections for AWG cables for main contacts for box terminal	
● using the back clamping point	2x (10 ... 1/0)
● using the front clamping point	2x (10 ... 1/0)
● using both clamping points	10 ... 2/0
type of connectable conductor cross-sections for DIN cable lug for main contacts	
● finely stranded	2 x (10 ... 50 mm²)
● stranded	2x (10 ... 70 mm²)
type of connectable conductor cross-sections for auxiliary contacts	
● solid	2x (0.25 ... 2.5 mm²)
● finely stranded with core end processing	2x (0.25 ... 1.5 mm²)
type of connectable conductor cross-sections for AWG cables	
● for main contacts	2x (7 ... 1/0)
● for auxiliary contacts	2x (24 ... 14)
Ambient conditions	
installation altitude at height above sea level	5 000 m
environmental category	
● during transport according to IEC 60721	2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)
● during storage according to IEC 60721	1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4
● during operation according to IEC 60721	3K6 (no formation of ice, no condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
ambient temperature	
● during operation	-25 ... +60 °C
● during storage	-40 ... +80 °C
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	
● at 220/230 V	
— at standard circuit at 50 °C rated value	25 hp
● at 460/480 V	
— at standard circuit at 50 °C rated value	50 hp
contact rating of auxiliary contacts according to UL	B300 / R300
Approvals Certificates	
Environmental Product Declaration	
● global warming potential [CO2 eq] / during manufacturing	23.7 kg
● global warming potential [CO2 eq] / during sales	0.471 kg
● global warming potential [CO2 eq] / during operation	158 kg
● global warming potential [CO2 eq] / after end of life	-6.65 kg
● global warming potential [CO2 eq] / total	175 kg

Environment	**General Product Approval**

Environmental Con-firmations

© Copyright Siemens

General Product Approval	EMV	For use in hazardous locations		Test Certificates
EG-Konf.		RCM	ATEX	IECEx	Type Test Certificates/Test Report

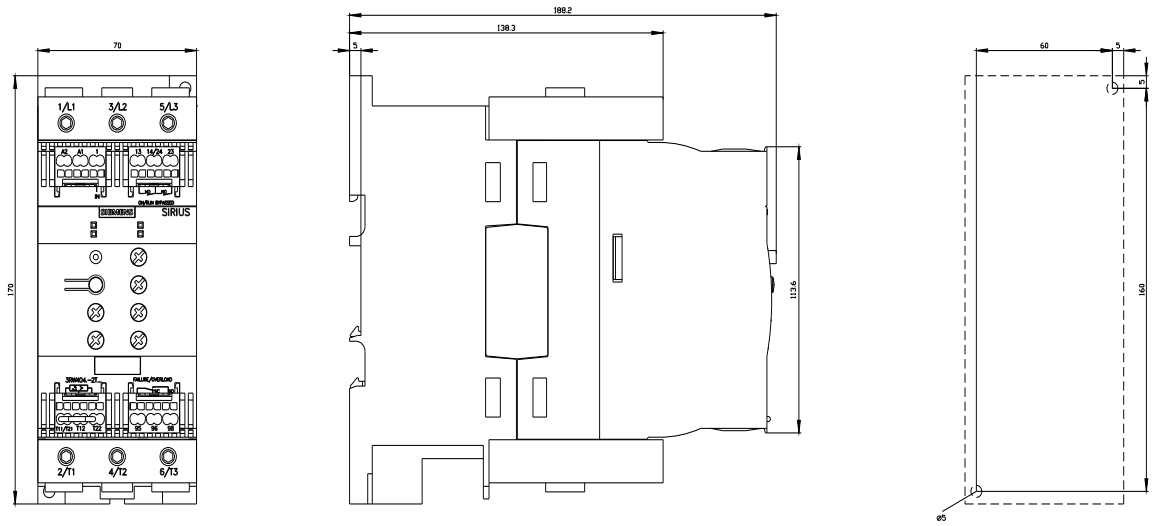
Test Certificates	Maritime application			other	
Special Test Certificate	DNV	LRS	PRS	Confirmation	产品合格 QC PASS

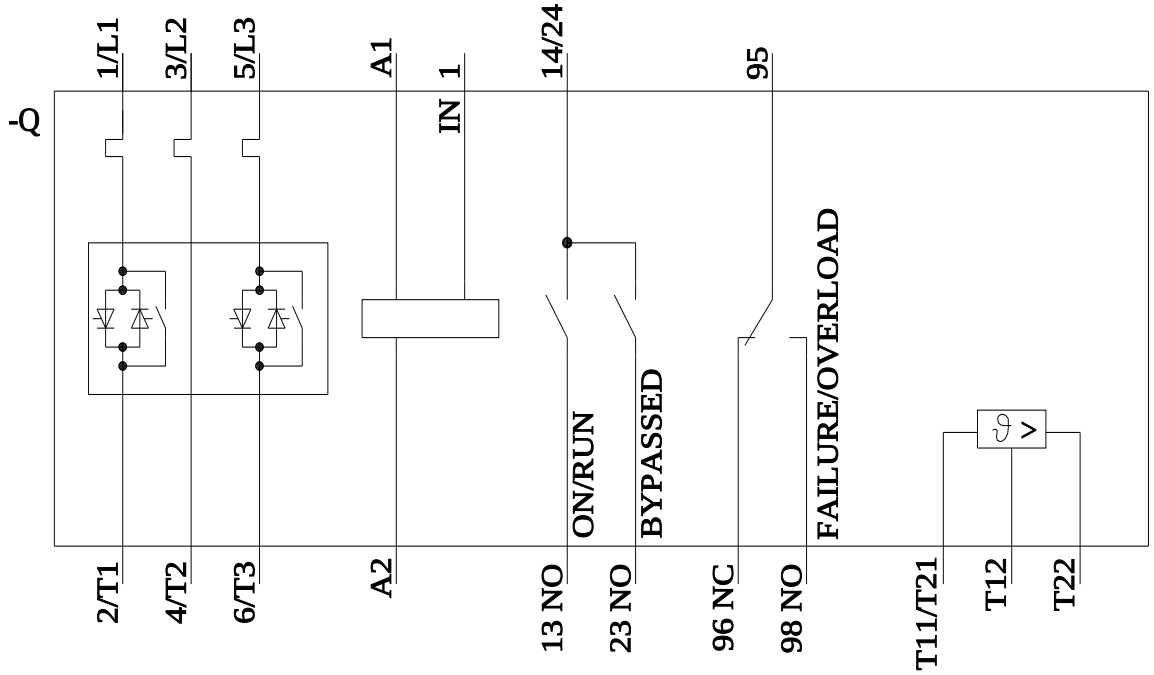
Railway	
Special Test Certificate	Confirmation

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=3RW4046-2TB04
Cax online generator
https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4046-2TB04
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RW4046-2TB04
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4046-2TB04&lang=en

© Copyright Siemens





last modified: 2/12/2026

Subject to change without notice
© Copyright Siemens