SIEMENS

Data sheet 3RW4446-6BC45

SIRIUS soft starter Values at 500 V, 40 °C standard: 356 A, 250 kW Inside-delta: 617 A, 450 kW 400-600 V AC, 230 V AC Screw terminals !!! Phased-out product !!! Successor is SIRIUS 3RW5, Preferred successor type is >>3RW5546-6HA16<<

General technical data		
product brand name		SIRIUS
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		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 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		
product designation		Soft starter
operational current		
● at 40 °C rated value	A	356
● at 50 °C rated value	A	315
● at 60 °C rated value	A	280
operational current for 3-phase motors at inside-delta circuit		
● at 40 °C rated value	A	617
● at 50 °C rated value	A	546
● at 60 °C rated value	A	485
yielded mechanical performance for 3-phase motors		
● at 400 V		
— at standard circuit at 40 °C rated value	kW	200
— at inside-delta circuit at 40 °C rated value	kW	355
● at 500 V		
— at standard circuit at 40 °C rated value	kW	250
— at inside-delta circuit at 40 °C rated value	kW	450
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

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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	71
continuous operating current [% of Ie] at 40 °C	%	115
power loss [W] at operational current at 40 °C during operation typical	W	174
Control circuit/ Control		
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	210
height	mm	230
depth	mm	298
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	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		busbar connection
● 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		
● finely stranded with core end processing		70 ... 240 mm²
● finely stranded without core end processing		70 ... 240 mm²
● stranded		95 ... 300 mm²
type of connectable conductor cross-sections for main contacts for box terminal using the back clamping point		
● finely stranded with core end processing		120 ... 185 mm²
● finely stranded without core end processing		120 ... 185 mm²
● stranded		120 ... 240 mm²

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type of connectable conductor cross-sections for main contacts for box terminal using both clamping points		
● finely stranded with core end processing		min. 2x 50 mm², max. 2x 185 mm²
● finely stranded without core end processing		min. 2x 50 mm², max. 2x 185 mm²
● stranded		max. 2x 70 mm², max. 2x 240 mm²
type of connectable conductor cross-sections at AWG cables for main contacts for box terminal		
● using the back clamping point		250 ... 500 kcmil
● using the front clamping point		3/0 ... 600 kcmil
● using both clamping points		min. 2x 2/0, max. 2x 500 kcmil
type of connectable conductor cross-sections for DIN cable lug for main contacts		
● finely stranded		50 ... 240 mm²
● stranded		70 ... 240 mm²
type of connectable conductor cross-sections for auxiliary contacts		
● solid		2x (0.5 ... 2.5 mm²)
● finely stranded with core end processing		2x (0.5 ... 1.5 mm²)
type of connectable conductor cross-sections at AWG cables		
● for main contacts		2/0 ... 500 kcmil
● for auxiliary contacts		2x (20 ... 14)
● for auxiliary contacts finely stranded with core end processing		2x (20 ... 16)

Ambient conditions

installation altitude at height above sea level	m	5 000
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	°C	60
● during storage	°C	-25 ... +80
derating temperature	°C	40
protection class IP on the front according to IEC 60529		IP00; IP20 with box terminal/cover
touch protection on the front according to IEC 60529		finger-safe, for vertical contact from the front with box terminal/cover

Certificates/ approvals

General Product Approval | **EMC**

Confirmation

Declaration of Conformity | **Test Certificates** | **Marine / Shipping**

Type Test Certificates/Test Report | Special Test Certificate

Marine / Shipping | **other**

Confirmation

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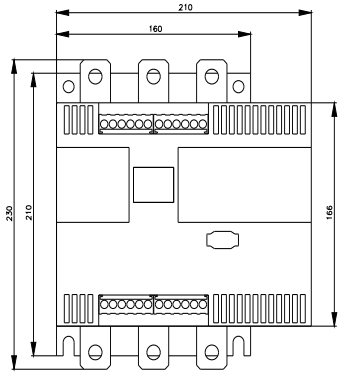
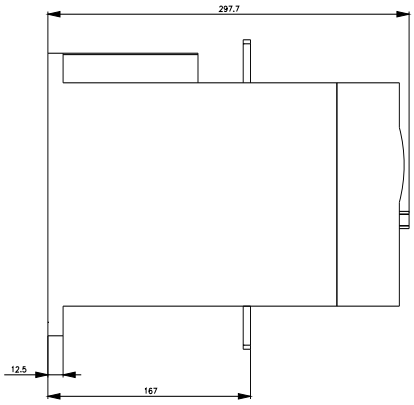
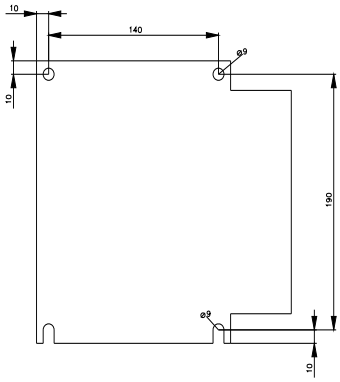
UL/CSA ratings		
yielded mechanical performance [hp] for 3-phase AC motor		
• at 460/480 V		
— at standard circuit at 50 °C rated value	hp	250
— at inside-delta circuit at 50 °C rated value	hp	450
• at 575/600 V		
— at standard circuit at 50 °C rated value	hp	300
— at inside-delta circuit at 50 °C rated value	hp	600
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 on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875
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=3RW4446-6BC45
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4446-6BC45
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RW4446-6BC45
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4446-6BC45&lang=en







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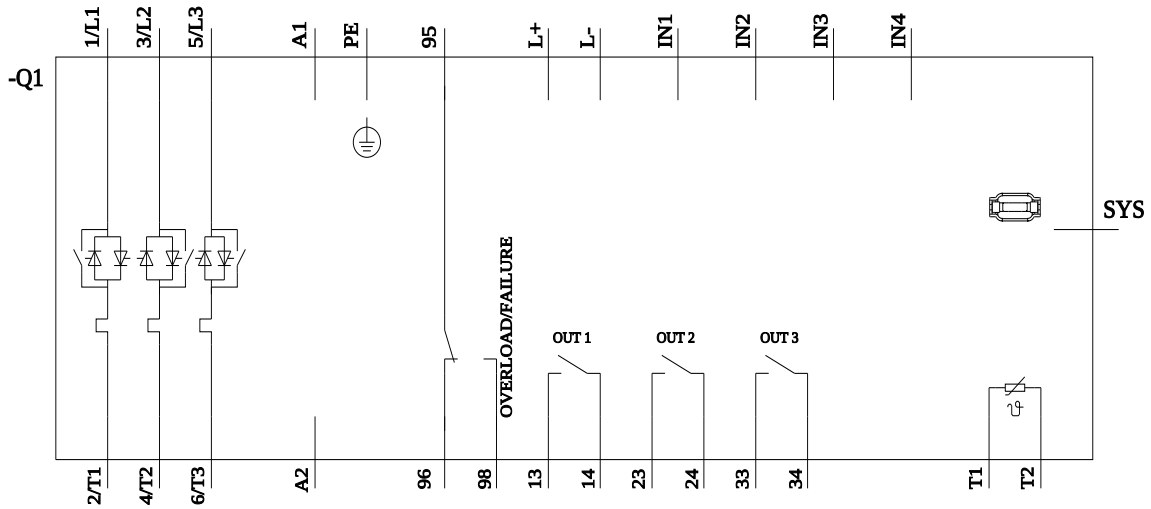

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