SIEMENS

Data sheet 3RW4454-2BC45

SIRIUS soft starter Values at 500 V, 40 °C standard: 615 A, 400 kW Inside-delta: 1065 A, 710 kW 400-600 V AC, 230 V AC spring-type terminals !!! Phased-out product !!! Successor is SIRIUS 3RW5, Preferred successor type is >>3RW5552-2HA16<<

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 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
operational current		
● at 40 °C rated value	A	615
● at 50 °C rated value	A	551
● at 60 °C rated value	A	489
operational current for 3-phase motors at inside-delta circuit		
● at 40 °C rated value	A	1 065
● at 50 °C rated value	A	954
● at 60 °C rated value	A	847
yielded mechanical performance for 3-phase motors		
● at 400 V		
— at standard circuit at 40 °C rated value	W	355 000
— at inside-delta circuit at 40 °C rated value	W	630 000
● at 500 V		
— at standard circuit at 40 °C rated value	W	400 000
— at inside-delta circuit at 40 °C rated value	W	710 000
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	123
continuous operating current [% of Ie] at 40 °C	%	115
power loss [W] at operational current at 40 °C during operation typical	W	186
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	510
height	mm	640
depth	mm	290
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		spring-loaded 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 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 (0.25 ... 1.5 mm²)
• finely stranded with core end processing		2x (0.25 ... 1.5 mm²)
type of connectable conductor cross-sections at AWG cables		
• for main contacts		2/0 ... 500 kcmil
• for auxiliary contacts		2x (24 ... 16)
Ambient conditions		
installation altitude at height above sea level	m	5 000
environmental category		
• during transport acc. to IEC 60721		2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)
• during storage acc. to IEC 60721		1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4
• during operation acc. 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 acc. to IEC 60529		IP00

Certificates/ approvals

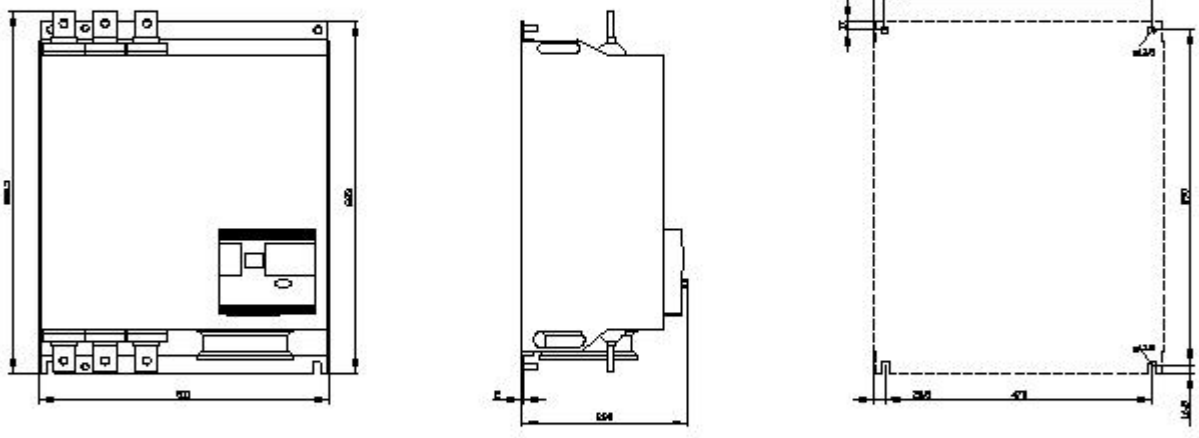
General Product Approval				EMC	Declaration of Conformity
CSA	CCC	UL	EAC	RCM	EG-Konf.

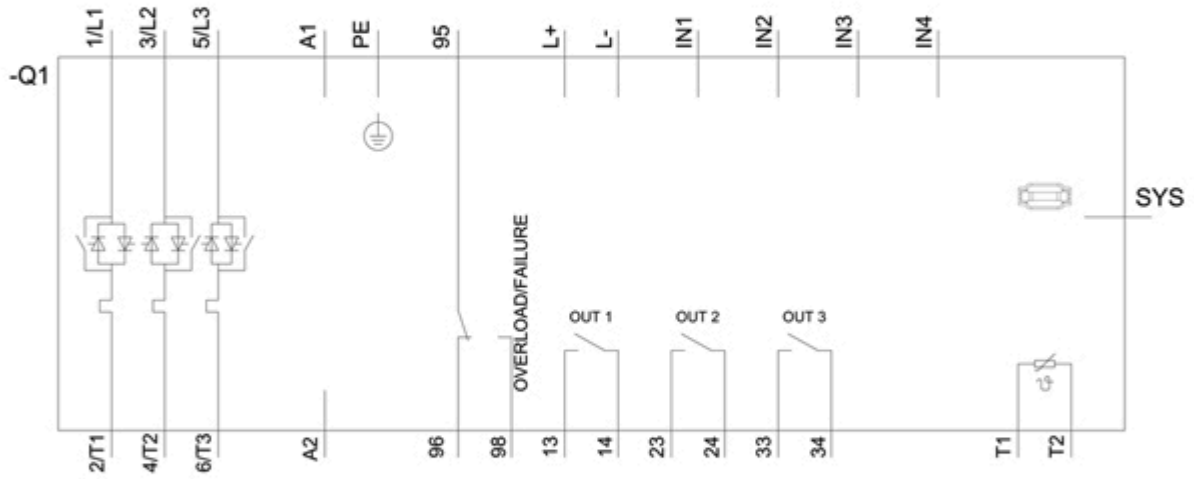
Test Certificates	Marine / Shipping			other
Special Test Certificate	ABS	BUREAU VERITAS	LRS	Confirmation

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	450
— at inside-delta circuit at 50 °C rated value	hp	850
• **at 575/600 V**		
— at standard circuit at 50 °C rated value	hp	600
— at inside-delta circuit at 50 °C rated value	hp	1 050
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,…)
https://www.siemens.com/ic10
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RW4454-2BC45
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4454-2BC45
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RW4454-2BC45
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4454-2BC45&lang=en





last modified: 1/18/2021