SIEMENS

Data sheet 3RW4422-1BC45



SIRIUS soft starter Values at 500 V, 40 °C standard: 29 A, 18.5 kW Inside-delta: 50 A, 30 kW 400-600 V AC, 230 V AC Screw terminals !!! Phased-out product !!! Successor is SIRIUS 3RW5, Preferred successor type is >>3RW5516-1HA15<<

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		G	
according to IEC 204-2 according to IEC 750			
Power Electronics			
product designation		Soft starter	
operational current			
at 40 °C rated value	Α	29	
 at 50 °C rated value 	Α	26	
at 60 °C rated value	Α	23	
operational current for 3-phase motors at inside-delta circuit			
 at 40 °C rated value 	Α	50	
 at 50 °C rated value 	Α	45	
 at 60 °C rated value 	Α	40	
yielded mechanical performance for 3-phase motors			
● at 400 V			
 — at standard circuit at 40 °C rated value 	kW	15	
 — at inside-delta circuit at 40 °C rated value 	kW	22	
● at 500 V			
 — at standard circuit at 40 °C rated value 	kW	18.5	
 — at inside-delta circuit at 40 °C rated value 	kW	30	
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	%	-15
inside-delta circuit		
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	Α	5
continuous operating current [% of le] at 40 °C	%	115
power loss [W] at operational current at 40 °C during operation typical	W	8
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	%	-10
voltage frequency	, ,	
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	%	-15
voltage at AC at 50 Hz relative positive tolerance of the control supply	%	10
voltage at AC at 50 Hz relative negative tolerance of the control supply	%	-15
voltage at AC at 60 Hz	0/	40
relative positive tolerance of the control supply voltage at AC at 60 Hz	%	10
display version for fault signal		Display
Mechanical data		
moonamear uata		
width	mm	170
width height	mm mm	192
width height depth		192 270
width height depth fastening method	mm	192 270 screw fixing
width height depth	mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with
width height depth fastening method	mm	192 270 screw fixing
width height depth fastening method mounting position required spacing with side-by-side mounting	mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
width height depth fastening method mounting position required spacing with side-by-side mounting • upwards	mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
width height depth fastening method mounting position required spacing with side-by-side mounting • upwards • at the side	mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5
width height depth fastening method mounting position required spacing with side-by-side mounting • upwards • at the side • downwards	mm mm mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75
width height depth fastening method mounting position required spacing with side-by-side mounting • upwards • at the side • downwards wire length maximum	mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75 500
width height depth fastening method mounting position required spacing with side-by-side mounting • upwards • at the side • downwards wire length maximum number of poles for main current circuit	mm mm mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75
width height depth fastening method mounting position required spacing with side-by-side mounting • upwards • at the side • downwards wire length maximum number of poles for main current circuit Connections/ Terminals	mm mm mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75 500
width height depth fastening method mounting position required spacing with side-by-side mounting • upwards • at the side • downwards wire length maximum number of poles for main current circuit Connections/ Terminals type of electrical connection	mm mm mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75 500 3
width height depth fastening method mounting position required spacing with side-by-side mounting • upwards • at the side • downwards wire length maximum number of poles for main current circuit Connections/ Terminals type of electrical connection • for main current circuit	mm mm mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75 500 3 box terminal
width height depth fastening method mounting position required spacing with side-by-side mounting • upwards • at the side • downwards wire length maximum number of poles for main current circuit Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit	mm mm mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75 500 3
width height depth fastening method mounting position required spacing with side-by-side mounting • upwards • at the side • downwards wire length maximum number of poles for main current circuit Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit number of NC contacts for auxiliary contacts	mm mm mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75 500 3 box terminal screw-type terminals
width height depth fastening method mounting position required spacing with side-by-side mounting • upwards • at the side • downwards wire length maximum number of poles for main current circuit Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit	mm mm mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75 500 3 box terminal screw-type terminals 0
width height depth fastening method mounting position required spacing with side-by-side mounting	mm mm mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75 500 3 box terminal screw-type terminals 0 3
width height depth fastening method mounting position required spacing with side-by-side mounting	mm mm mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75 500 3 box terminal screw-type terminals 0 3
width height depth fastening method mounting position required spacing with side-by-side mounting	mm mm mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75 500 3 box terminal screw-type terminals 0 3 1
width height depth fastening method mounting position required spacing with side-by-side mounting • upwards • at the side • downwards wire length maximum number of poles for main current circuit Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts type of connectable conductor cross-sections for main contacts for box terminal using the front clamping point • solid	mm mm mm mm	270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75 500 3 box terminal screw-type terminals 0 3 1
width height depth fastening method mounting position required spacing with side-by-side mounting • upwards • at the side • downwards wire length maximum number of poles for main current circuit Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of CO contacts for auxiliary contacts type of connectable conductor cross-sections for main contacts for box terminal using the front clamping point • solid • finely stranded with core end processing	mm mm mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75 500 3 box terminal screw-type terminals 0 3 1 2.5 16 mm² 2.5 35 mm²
width height depth fastening method mounting position required spacing with side-by-side mounting • upwards • at the side • downwards wire length maximum number of poles for main current circuit Connections/ Terminals type of electrical connection • for auxiliary and control circuit number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of CO contacts for auxiliary contacts type of connectable conductor cross-sections for main contacts for box terminal using the front clamping point • solid • finely stranded with core end processing • finely stranded without core end processing	mm mm mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75 500 3 box terminal screw-type terminals 0 3 1 2.5 16 mm² 2.5 35 mm² 4 50 mm²
width height depth fastening method mounting position required spacing with side-by-side mounting	mm mm mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75 500 3 box terminal screw-type terminals 0 3 1 2.5 16 mm² 2.5 35 mm²
width height depth fastening method mounting position required spacing with side-by-side mounting • upwards • at the side • downwards wire length maximum number of poles for main current circuit Connections/ Terminals type of electrical connection • for auxiliary and control circuit number of NC contacts for auxiliary contacts number of NO contacts for auxiliary contacts number of CO contacts for auxiliary contacts type of connectable conductor cross-sections for main contacts for box terminal using the front clamping point • solid • finely stranded with core end processing • finely stranded without core end processing	mm mm mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75 500 3 box terminal screw-type terminals 0 3 1 2.5 16 mm² 2.5 35 mm² 4 50 mm²
width height depth fastening method mounting position required spacing with side-by-side mounting	mm mm mm mm	192 270 screw fixing with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back 100 5 75 500 3 box terminal screw-type terminals 0 3 1 2.5 16 mm² 2.5 35 mm² 4 50 mm²

 finely stranded without core end processing 		10 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)
 finely stranded without core end processing 		2x (4 35 mm²)
• stranded		2x (4 50 mm²)
type of connectable conductor cross-sections at AWG cables for main contacts for box terminal		
 using the back clamping point 		10 2/0
 using the front clamping point 		10 2/0
 using both clamping points 		2x (10 1/0)
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 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		IP20

Certificates/ approvals

General Product Approval

EMC





touch protection on the front according to IEC 60529

Confirmation





finger-safe, for vertical contact from the front



Declaration of Conformity

Test Certificates

Marine / Shipping





Type Test Certificates/Test Report

Special Test Certificate





Marine / Shipping

other







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

— at inside-delta circuit at 50 °C rated value

• at 575/600 V

— at standard circuit at 50 °C rated value

- at inside-delta circuit at 50 °C rated value

contact rating of auxiliary contacts according to UL

hp hp	15 30
hp hp	20 40 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=3RW4422-1BC45

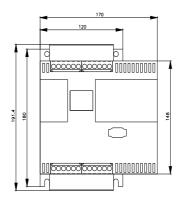
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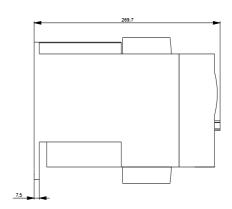
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4422-1BC45

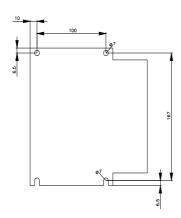
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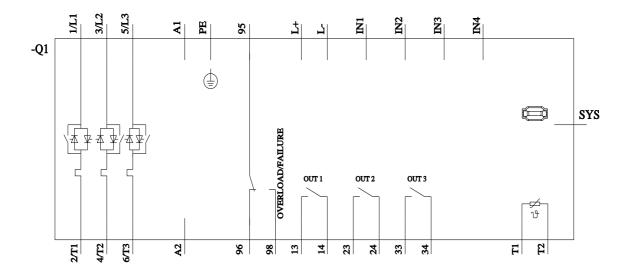
https://support.industry.siemens.com/cs/ww/en/ps/3RW4422-1BC45

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4422-1BC45&lang=en









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