### **SIEMENS**

Product data sheet 3RW4447-2BC44



SIRIUS SOFT STARTER, VALUES WITH 400 V, 40 DEG., STANDARD: 432A, 250KW, INSIDE-DELTA CIRCUIT 3: 748A, 400KW, 200-460 V AC, 230 V AC, CAGE CLAMP TERMINALS

General details:			
Product brand name		SIRIUS	
Product equipment			
integrated bridging contact system		Yes	
• thyristors		Yes	
Product function			
intrinsic device protection		Yes	
motor overload protection		Yes	
<ul> <li>evaluation of thermal resistor motor protection</li> </ul>		Yes	
reset external		Yes	
adjustable current limitation		Yes	
inside-delta circuit		Yes	
Product component / outlet for enine brake		Yes	
Item designation			
according to DIN EN 61346-2		Q	
<ul> <li>according to DIN 40719 extendable after IEC 204-2 / according to IEC 750</li> </ul>		G	

<ul> <li>at 40 °C / rated value</li> <li>at 50 °C / rated value</li> <li>for three-phase servomotors / at 3-phase root switching</li> <li>at 40 °C / rated value</li> <li>at 50 °C / rated value</li> <li>at 60 °C / rated value</li> <li>at 60 °C / rated value</li> <li>at 60 °C / rated value</li> <li>Emitted mechanical power / for three-phase servomotors</li> <li>at 230 V / at standard switching / at 40 °C</li> <li>rated value</li> <li>at 400 V / at 3-phase root switching / at 40 °C</li> <li>rated value</li> <li>at 230 V / at 3-phase root switching / at 40 °C</li> <li>rated value</li> <li>at 400 V / at 3-phase root switching / at 40 °C</li> <li>rated value</li> <li>yielded mechanical performance (hp) / for three-phase squirrel cage motors / at 200/208 V / at standard circuit / at 50 °C / rated value</li> <li>Operating frequency</li> <li>rated value</li> <li>Relative negative tolerance / of the operating frequency</li> <li>Relative negative tolerance / of the operating voltage / with standard circuit</li> <li>Relative positive tolerance / of the operating voltage / with standard circuit</li> <li>Relative positive tolerance / of the operating voltage / with standard circuit</li> <li>Operating voltage / at 3-phase root switching / rated value</li> </ul>	A A A W W W hp	432 385 335 748 667 580 132,000 250,000 400,000 125
• at 60 °C / rated value  • for three-phase servomotors / at 3-phase root switching  • at 40 °C / rated value  • at 50 °C / rated value  • at 60 °C / rated value  Emitted mechanical power / for three-phase servomotors  • at 230 V / at standard switching / at 40 °C  • rated value  • at 400 V / at standard switching / at 40 °C  • rated value  • at 230 V / at 3-phase root switching / at 40 °C  • rated value  • at 400 V / at 3-phase root switching / at 40 °C  • rated value  • at 400 V / at 3-phase root switching / at 40 °C  • rated value  yielded mechanical performance (hp) / for three-phase squirrel cage motors / at 200/208 V / at standard circuit / at 50 °C / rated value  Operating frequency  • rated value  Relative negative tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit	A A A W W W	335  748 667 580  132,000  250,000  400,000
• for three-phase servomotors / at 3-phase root switching  • at 40 °C / rated value  • at 50 °C / rated value  • at 60 °C / rated value  Emitted mechanical power / for three-phase servomotors  • at 230 V / at standard switching / at 40 °C  • rated value  • at 400 V / at standard switching / at 40 °C  • rated value  • at 230 V / at 3-phase root switching / at 40 °C  • rated value  • at 400 V / at 3-phase root switching / at 40 °C  • rated value  • at 400 V / at 3-phase root switching / at 40 °C  • rated value  yielded mechanical performance (hp) / for three-phase squirrel cage motors / at 200/208 V / at standard circuit / at 50 °C / rated value  Operating frequency  • rated value  Relative negative tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit	A A W W	748 667 580  132,000  250,000  400,000
at 40 °C / rated value at 50 °C / rated value  at 60 °C / rated value  Emitted mechanical power / for three-phase servomotors  at 230 V / at standard switching / at 40 °C  rated value  at 400 V / at standard switching / at 40 °C  rated value  at 230 V / at 3-phase root switching / at 40 °C  rated value  at 400 V / at 3-phase root switching / at 40 °C  rated value  at 400 V / at 3-phase root switching / at 40 °C  rated value  yielded mechanical performance (hp) / for three-phase squirrel cage motors / at 200/208 V / at standard circuit / at 50 °C / rated value  Operating frequency  rated value  Relative negative tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit	A A W W	667 580 132,000 250,000 250,000 400,000
at 50 °C / rated value  Emitted mechanical power / for three-phase servomotors  at 230 V / at standard switching / at 40 °C  rated value  at 400 V / at standard switching / at 40 °C  rated value  at 230 V / at 3-phase root switching / at 40 °C  rated value  at 400 V / at 3-phase root switching / at 40 °C  rated value  at 400 V / at 3-phase root switching / at 40 °C  rated value  yielded mechanical performance (hp) / for three-phase squirrel cage motors / at 200/208 V / at standard circuit / at 50 °C / rated value  Operating frequency  rated value  Relative negative tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit	A A W W	667 580 132,000 250,000 250,000 400,000
• at 60 °C / rated value  Emitted mechanical power / for three-phase servomotors  • at 230 V / at standard switching / at 40 °C  • rated value  • at 400 V / at standard switching / at 40 °C  • rated value  • at 230 V / at 3-phase root switching / at 40 °C  • rated value  • at 400 V / at 3-phase root switching / at 40 °C  • rated value  value  yielded mechanical performance (hp) / for three-phase squirrel cage motors / at 200/208 V / at standard circuit / at 50 °C / rated value  Operating frequency  • rated value  Relative negative tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit	w w w	132,000 250,000 250,000 400,000
Emitted mechanical power / for three-phase servomotors  • at 230 V / at standard switching / at 40 °C  • rated value  • at 400 V / at standard switching / at 40 °C  • rated value  • at 230 V / at 3-phase root switching / at 40 °C  • rated value  • at 400 V / at 3-phase root switching / at 40 °C  • rated value  yielded mechanical performance (hp) / for three-phase squirrel cage motors / at 200/208 V / at standard circuit / at 50 °C / rated v alue  Operating frequency  • rated value  Relative negative tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit	w w w	132,000 250,000 250,000 400,000
at 230 V / at standard switching / at 40 °C  rated value  at 400 V / at standard switching / at 40 °C  rated value  at 230 V / at 3-phase root switching / at 40 °C  rated value  at 400 V / at 3-phase root switching / at 40 °C  rated value  yielded mechanical performance (hp) / for three-phase squirrel cage motors / at 200/208 V / at standard circuit / at 50 °C / rated v alue  Operating frequency  rated value  Relative negative tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit	w w w	250,000 250,000 400,000
• rated value  • at 400 V / at standard switching / at 40 °C  • rated value  • at 230 V / at 3-phase root switching / at 40 °C  • rated value  • at 400 V / at 3-phase root switching / at 40 °C  • rated value  yielded mechanical performance (hp) / for three-phase squirrel cage motors / at 200/208 V / at standard circuit / at 50 °C / rated v alue  Operating frequency  • rated value  Relative negative tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit	w w w	250,000 250,000 400,000
at 400 V / at standard switching / at 40 °C  rated value  at 230 V / at 3-phase root switching / at 40 °C  rated value  at 400 V / at 3-phase root switching / at 40 °C  rated value  yielded mechanical performance (hp) / for three-phase squirrel cage motors / at 200/208 V / at standard circuit / at 50 °C / rated value  Operating frequency  rated value  Relative negative tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit	w w w	250,000 250,000 400,000
* rated value     * at 230 V / at 3-phase root switching / at 40 °C     * rated value     * at 400 V / at 3-phase root switching / at 40 °C     * rated value  yielded mechanical performance (hp) / for three-phase squirrel cage motors / at 200/208 V / at standard circuit / at 50 °C / rated v alue  Operating frequency     * rated value  Relative negative tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit	w	250,000 400,000
<ul> <li>at 230 V / at 3-phase root switching / at 40 °C</li> <li>rated value</li> <li>at 400 V / at 3-phase root switching / at 40 °C</li> <li>rated value</li> </ul> yielded mechanical performance (hp) / for three-phase squirrel cage motors / at 200/208 V / at standard circuit / at 50 °C / rated V alue Operating frequency <ul> <li>rated value</li> </ul> Relative negative tolerance / of the operating frequency Operating voltage / with standard circuit / rated value Relative negative tolerance / of the operating voltage / with standard circuit Relative positive tolerance / of the operating voltage / with standard circuit Relative positive tolerance / of the operating voltage / with standard circuit	w	250,000 400,000
• rated value     • at 400 V / at 3-phase root switching / at 40 °C     • rated value  yielded mechanical performance (hp) / for three-phase squirrel cage motors / at 200/208 V / at standard circuit / at 50 °C / rated v alue  Operating frequency     • rated value  Relative negative tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit	W	400,000
• at 400 V / at 3-phase root switching / at 40 °C     • rated value  yielded mechanical performance (hp) / for three-phase squirrel cage motors / at 200/208 V / at standard circuit / at 50 °C / rated value  Operating frequency     • rated value  Relative negative tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit	W	400,000
• rated value  yielded mechanical performance (hp) / for three-phase squirrel cage motors / at 200/208 V / at standard circuit / at 50 °C / rated v alue  Operating frequency • rated value  Relative negative tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit		
yielded mechanical performance (hp) / for three-phase squirrel cage motors / at 200/208 V / at standard circuit / at 50 °C / rated v alue  Operating frequency  • rated value  Relative negative tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit		
cage motors / at 200/208 V / at standard circuit / at 50 °C / rated v alue  Operating frequency  • rated value  Relative negative tolerance / of the operating frequency  Relative positive tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit	hp	125
alue  Operating frequency  • rated value  Relative negative tolerance / of the operating frequency  Relative positive tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit		
Relative negative tolerance / of the operating frequency  Relative positive tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit		
Relative negative tolerance / of the operating frequency  Relative positive tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit		
Relative positive tolerance / of the operating frequency  Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit	Hz	50 60
Operating voltage / with standard circuit / rated value  Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit	%	-10
Relative negative tolerance / of the operating voltage / with standard circuit  Relative positive tolerance / of the operating voltage / with standard circuit	%	10
Relative positive tolerance / of the operating voltage / with standard circuit	V	200 460
standard circuit	%	-15
Operating voltage / at 3-phase root switching / rated value	%	10
	V	200 460
Relative negative tolerance / of the operating voltage / with inside-delta circuit	%	-15
Relative positive tolerance / of the operating voltage / with inside-delta circuit	%	10
Minimum load in % of I_M	%	8
Adjustable rated current / of the motor / for motor overload protection / minimum	A	86
Continuous operating current in % of I_e / at 40°C	%	115
Active power loss / at operating current / at 40°C / during operating phase / typical	,5	

Control electronics:	
Type of voltage / of the controlled 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 50 Hz / for AC	V	230
• at 60 Hz / for AC	V	230
Relative negative tolerance / of the control supply voltage / at 60 Hz / for AC	%	-15
Relative positive tolerance / of the control supply voltage / at 60 Hz / for AC	%	10
Type of display / for fault signal		Display

Mechanical design:			
Width	mm	210	
Height	mm	230	
Depth	mm	298	
Type of mounting		screw fixing	
Built in orientation		bei senkrechter Montageebene +/-90° drehbar, bei senkrechter Montageebene +/- 22,5° nach vorne und hinten kippbar	
Distance, to be maintained, to the ranks assembly			
• upwards	mm	100	
• sidewards	mm	5	
• downwards	mm	75	
Altitude of installation site / at a height over sea level	m	5,000	
Cable length / maximum	m	500	
Number of poles / for main current circuit		3	

Electrical connections:	
Design of the electrical connection	
for main current circuit	busbar connection
for auxiliary and control current circuit	spring-loaded terminals
Number of NC contacts / for auxiliary contacts	0
Number of NO contacts / for auxiliary contacts	3
Number of change-over switches / for auxiliary contacts	1
Type of the connectable conductor cross section / for main contacts / for box terminal / when using the front clamping point	
finel     y stranded / with conductor end processing	70 240 mm2

<ul> <li>finel</li> <li>y stranded / without conductor end processing</li> </ul>	70 240 mm2
• stran ded	95 300 mm2
Type of the connectable conductor cross-section / for main contacts / for box terminal / when using the back clamping point	
<ul> <li>finely stranded / with conductor end processing</li> </ul>	120 185 mm2
<ul> <li>withou t conductor final cutting / without conductor end processing</li> </ul>	120 185 mm2
• strand ed	120 240 mm2
Type of the connectable conductor cross-section / for main contacts / for box terminal / when using both clamping points	
<ul><li>finely strande</li><li>d / with conductor end processing</li></ul>	min. 2x 50 mm2, max. 2x 185 mm2
<ul> <li>without conductor end processing</li> </ul>	min. 2x 50 mm2, max. 2x 185 mm2
• stranded	max. 2x 70 mm2, max. 2x 240 mm2
Type of the connectable conductor cross-section / for AWG conductors / for main contacts / for box terminal	
<ul> <li>when using the back cl amping point</li> </ul>	250 500 kcmil
<ul> <li>when using the front c</li> <li>lamping point</li> </ul>	3/0 600 kcmil
when using both clampi ng points	min. 2x 2/0, max. 2x 500 kcmil
Type of the connectable conductor cross-section / for DIN cable lug / for main contacts	
• finely stranded	50 240 mm2
• stranded	70 240 mm2
Type of the connectable conductor cross-section	
• for AWG conductors / for main contacts	2/0 500 kcmil
Type of the connectable conductor cross-section	
for auxiliary contacts	
• solid	2x (0.25 1.5 mm2)
• finely stranded / with conductor end processing	2x (0.25 1.5 mm2)
• for AWG conductors / for auxiliary contacts	2x (24 16)
Ambient conditions.	

Ambient conditions:			
Ambient temperature			
during operating	/ °C	60	
during storage	°C	-25 80	
Derating temperature	°C	40	

Protection class IP IP00

### Certificates/approvals:

#### **General Product Approval**



**ROSTEST** 



Manufacturer

**Test Certificates** 

#### **Shipping Approval**







PRS

hp

Manufacturer

other

# UL/CSA ratings

# yielded mechanical performance (hp) / for three-phase squirrel cage motors

• at 220/230 V / at standard circuit

• at 50 °C / rated v

• at 460/480 V / at standard circuit

• at 50 °C / rated v alue

 $\bullet$  at 200/208 V / at inside-delta circuit / at 50 °C / rat ed value

at 220/230 V / at inside-delta circuit / at 50 °C / rat ed value
 at 460/480 V / at inside-delta circuit / at 50 °C / rat

ed value

150

р	300

hp 200

hp 250

hp 600

#### **Further information:**

Information- and Downloadcenter (Catalogs, Brochures,...)

 $\underline{\text{http://www.siemens.com/industrial-controls/catalogs}}$ 

Industry Mall (Online ordering system)

http://www.siemens.com/industrial-controls/mall

**CAx-Online-Generator** 

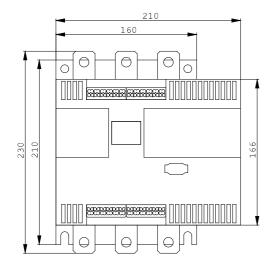
http://www.siemens.com/cax

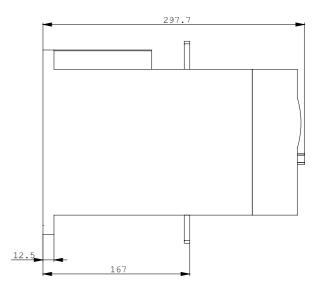
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

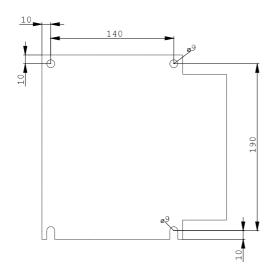
http://support.automation.siemens.com/WW/view/en/3RW4447-2BC44/all

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

 $\underline{\text{http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3RW4447-2BC44}}$ 







last change: Aug 22, 2011