

# SUNNY BOY 5000-US / 6000-US / 7000-US / 8000-US WITH INTEGRATED AFCI



SB 5000US-12 / SB 6000US-12 / SB 7000US-12 / SB 8000US-12



**AFCI EQUIPPED**



## Certifications

- For countries that require UL certification (UL 1741/IEEE 1547)
- Integrated AFCI functionality meets the requirements of NEC 2011 690.11

## Efficient

- 97% peak efficiency
- OptiCool™ active temperature management system

## Safe

- Galvanic isolation

## Simple

- Patented automatic grid voltage detection\*
- Integrated DC disconnect switch

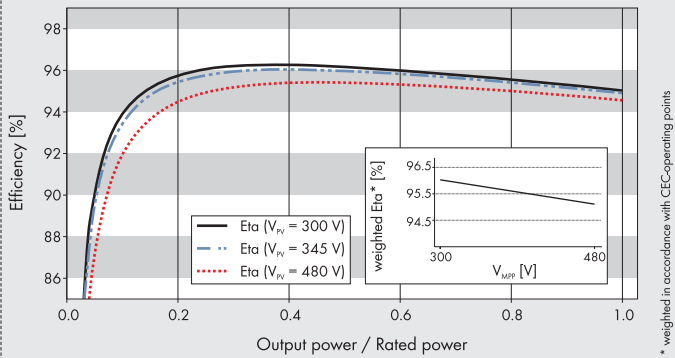
## SUNNY BOY 5000-US / 6000-US / 7000-US / 8000-US WITH INTEGRATED AFCI

Versatile performer with UL certification

The Sunny Boy 5000-US, 6000-US, 7000-US and 8000-US inverters with integrated AFCI are UL certified and feature excellent efficiency. Graduated power classes provide flexibility in system design. Automatic grid voltage detection\* and an integrated DC disconnect switch simplify installation, ensuring safety as well as saving time. These models feature galvanic isolation and can be used with all types of modules – crystalline as well as thin-film.

\* US Patent US7352549B1

Efficiency curve SUNNY BOY 8000-US



Accessories

-  RS485 interface 485USPB-NR
-  Bluetooth Piggy-Back BTPBINV-NR with External Antenna BTPB-EXTANT-NR
-  Combi-Switch DC disconnect and PV array combiner box COMBO-SWITCH
-  Combiner Box Simplify wiring for added convenience and safety SBCB-6-3R or SBCB-6-4
-  SMA Power Balancer Set PBL-SBUS-10-NR

Technical data	Sunny Boy 5000-US			Sunny Boy 6000-US			Sunny Boy 7000-US			Sunny Boy 8000-US	
	208 V AC	240 V AC	277 V AC	208 V AC	240 V AC	277 V AC	208 V AC	240 V AC	277 V AC	240 V AC	277 V AC
<b>Input (DC)</b>											
Max. recommended PV power (@ module STC)	6250 W			7500 W			8750 W			10000 W	
Max. DC power (@ cos φ = 1)	5300 W			6350 W			7400 W			8600 W	
Max. DC voltage	600 V			600 V			600 V			600 V	
DC nominal voltage	310 V			310 V			310 V			345 V	
MPP voltage range	250 V - 480 V			250 V - 480 V			250 V - 480 V			300 V - 480 V	
Min. DC voltage / start voltage	250 V / 300 V			250 V / 300 V			250 V / 300 V			300 V / 365 V	
Max. input current / per string (at DC disconnect)	21 A / 20 A			25 A / 20 A			30 A / 20 A			30 A / 20 A	
Number of MPP trackers / fused strings per MPP tracker	36 A @ combined terminal			36 A @ combined terminal			36 A @ combined terminal			36 A @ combined terminal	
	1 / 4 (DC disconnect)										
<b>Output (AC)</b>											
AC nominal power	5000 W			6000 W			7000 W			7680 W	8000 W
Max. AC apparent power	5000 VA			6000 VA			7000 VA			7680 VA	8000 VA
Nominal AC voltage / adjustable	208 V / ●	240 V / ●	277 V / ●	208 V / ●	240 V / ●	277 V / ●	208 V / ●	240 V / ●	277 V / ●	240 V / ●	277 V / ●
AC voltage range	183 - 229 V	211 - 264 V	244 - 305 V	183 - 229 V	211 - 264 V	244 - 305 V	183 - 229 V	211 - 264 V	244 - 305 V	211 - 264 V	244 - 305 V
AC grid frequency; range	60 Hz; 59.3 - 60.5 Hz			60 Hz; 59.3 - 60.5 Hz			60 Hz; 59.3 - 60.5 Hz			60 Hz; 59.3 - 60.5 Hz	
Max. output current	24 A	21 A	18 A	29 A	25 A	22 A	34 A	29 A	25 A	32 A	29 A
Power factor (cos φ)	1			1			1			1	
Phase conductors / connection phases	1 / 2	1 / 2	1 / 1	1 / 2	1 / 2	1 / 1	1 / 2	1 / 2	1 / 1	1 / 2	1 / 1
Harmonics	< 4%			< 4%			< 4%			< 4%	
<b>Efficiency</b>											
Max. efficiency	96.7%	96.8%	96.8%	96.9%	96.8%	97.0%	97.1%	96.9%	97.0%	96.3%	96.5%
CEC efficiency	95.5%	95.5%	95.5%	95.5%	95.5%	96.0%	95.5%	96.0%	96.0%	96.0%	96.0%
<b>Protection devices</b>											
DC reverse-polarity protection	●			●			●			●	
Integrated AFCI	●			●			●			●	
AC short circuit protection	●			●			●			●	
Galvanically isolated / all-pole sensitive monitoring unit	●/-			●/-			●/-			●/-	
Protection class / overvoltage category	I / III			I / III			I / III			I / III	
<b>General data</b>											
Dimensions (W / H / D) in mm (in)	470 / 615 / 240 (18.5 / 24 / 9)										
DC Disconnect dimensions (W / H / D) in mm (in)	187 / 297 / 190 (7 / 12 / 7.5)										
Packing dimensions (W / H / D) in mm (in)	390 / 580 / 800 (16 / 23 / 31.5)										
DC Disconnect packing dimensions (W / H / D) in mm (in)	370 / 240 / 280 (15 / 9 / 11)										
Weight / DC Disconnect weight	64 kg (141 lb) / 3.5 kg (8 lb)									66 kg (145 lb) / 3.5 kg (8 lb)	
Packing weight / DC Disconnect packing weight	67 kg (147 lb) / 4 kg (9 lb)									69 kg (152 lb) / 4 kg (9 lb)	
Operating temperature range (full power)	-40 °C ... +45 °C (-40 °F ... +113 °F)										
Noise emission (typical)	44 dB(A)			45 dB(A)			46 dB(A)			49 dB(A)	
Internal consumption at night	0.1 W			0.1 W			0.1 W			0.1 W	
Topology	LF transformer			LF transformer			LF transformer			LF transformer	
Cooling concept	OptiCool			OptiCool			OptiCool			OptiCool	
Electronics protection rating / connection area	NEMA 3R / NEMA 3R			NEMA 3R / NEMA 3R			NEMA 3R / NEMA 3R			NEMA 3R / NEMA 3R	
<b>Features</b>											
Display: text line / graphic	●/-			●/-			●/-			●/-	
Interfaces: RS485 / Bluetooth®	○/○			○/○			○/○			○/○	
Warranty: 10 / 15 / 20 years	●/○/○			●/○/○			●/○/○			●/○/○	
Certificates and permits (more available on request)	UL1741 (Second Ed.), UL1998, UL1699B, IEEE 1547, FCC Part 15 (Class A & B), CSA C22.2 No. 107.1-2001										
Data at nominal conditions											
NOTE: US inverters ship with gray lids.											
● Standard features ○ Optional features – Not available											
Type designation	SB 5000US-12			SB 6000US-12			SB 7000US-12			SB 8000US-12	

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