



SUNNY BOY 2000HF / 2500HF / 3000HF

SB 2000HF-30 / SB 2500HF-30 / SB 3000HF-30



High Yields

- Maximum efficiency 96.3 %
- The best tracking efficiency with OptiTrac MPP tracking
- Shade management with OptiTrac Global Peak *

Safe

- Galvanic isolation
- Integrated ESS DC switch-disconnector
- Theft protection

Simple

- Quick and easy configuration thanks to Quick Module
- DC plug system SUNCLIX
- Suitable for generator grounding

Communicative

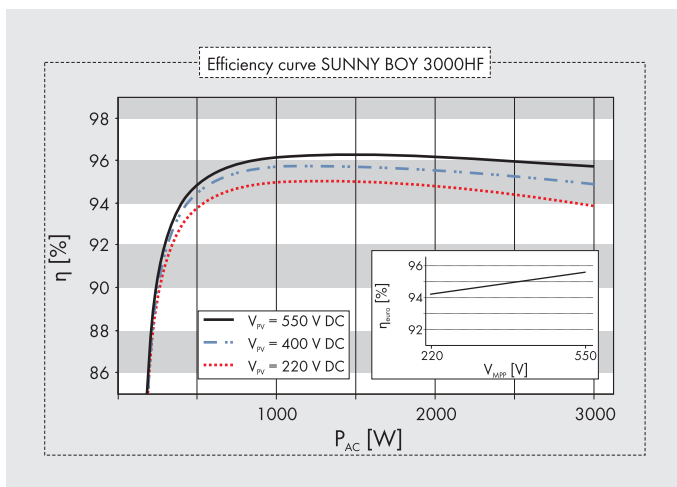
- Graphic display
- *Bluetooth*® technology as standard

SUNNY BOY 2000HF / 2500HF / 3000HF

Simply high yields

This is the new generation of galvanically isolated inverters – packed full of the latest SMA technology, the Sunny Boy HF series provides the highest yields for transformer inverters of this performance class. Installation is now easier than ever thanks to the DC connector system SUNCLIX, the plug-in generator grounding (optional), and an easily accessible configuration area – including easier mounting due to the reduced weight. The wide input voltage range from 175 to 700 volts gives you extraordinary flexibility for your plant design, and the modern graphic display and wireless *Bluetooth* communication system make the devices highly user-friendly.

Technical data	Sunny Boy 2000HF	Sunny Boy 2500HF	Sunny Boy 3000HF
Input (DC)			
Max. DC power (@ $\cos \varphi = 1$)	2100 W	2600 W	3150 W
Max. DC voltage	700 V	700 V	700 V
MPP voltage range	175 V - 560 V	175 V - 560 V	210 V - 560 V
DC nominal voltage	530 V	530 V	530 V
Min. DC voltage / start voltage	175 V / 220 V	175 V / 220 V	175 V / 220 V
Max. input current / per string	12 A / 12 A	15 A / 15 A	15 A / 15 A
Number of MPP trackers / strings per MPP tracker	1 / 2	1 / 2	1 / 2
Output (AC)			
AC nominal power (@ 230 V, 50 Hz)	2000 W	2500 W	3000 W
Max. AC apparent power	2000 VA	2500 VA	3000 VA
Nominal AC voltage; range	220, 230, 240 V; 180 - 280 V	220, 230, 240 V; 180 - 280 V	220, 230, 240 V; 180 - 280 V
AC grid frequency; range	50, 60 Hz; ± 4.5 Hz	50, 60 Hz; ± 4.5 Hz	50, 60 Hz; ± 4.5 Hz
Max. output current	11.4 A	14.2 A	15 A
Power factor ($\cos \varphi$)	1	1	1
Phase conductors / connection phases	1 / 1	1 / 1	1 / 1
Efficiency			
Max. efficiency / Euro-eta	96.3 % / 95.0 %	96,3 % / 95.3 %	96.3 % / 95.4 %
Protection devices			
DC reverse-polarity protection	●	●	●
ESS switch-disconnector	●	●	●
AC short circuit protection	●	●	●
Ground fault monitoring	●	●	●
Grid monitoring (SMA Grid Guard)	●	●	●
Galvanically isolated / all-pole sensitive fault current monitoring unit	●/-	●/-	●/-
Protection class / overvoltage category	I / III	I / III	I / III
General data			
Dimensions (W / H / D) in mm	348 / 580 / 145	348 / 580 / 145	348 / 580 / 145
Weight	17 kg	17 kg	17 kg
Operating temperature range	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C
Noise emission (typical)	38 dB(A)	38 dB(A)	38 dB(A)
Internal consumption: (night)	< 1 W	< 1 W	< 1 W
Topology	HF transformer	HF transformer	HF transformer
Cooling concept	OptiCool	OptiCool	OptiCool
Electronics protection rating / connection area (as per IEC 60529)	IP65 / IP54	IP65 / IP54	IP65 / IP54
Climatic category (per IEC 60721-3-4)	4K4H	4K4H	4K4H
Features			
DC connection: SUNCLIX	●	●	●
AC connection: screw terminal / plug connector / spring-type terminal	-/●/-	-/●/-	-/●/-
Display: text line / graphic	-/●	-/●	-/●
Interfaces: RS485 / Bluetooth	○/●	○/●	○/●
Warranty: 5 / 10 / 15 / 20 / 25 years	●/○/○/○/○	●/○/○/○/○	●/○/○/○/○
Certificates and permits (more available on request)	CE, VDE 0126-1-1, Enel-GUIDA Ed. 1.1, RD 1663, G83/1-1, PPC, AS4777, UTE C 15-712-1, EN 50438***, C10/C11, PPDS		
* In planning			
*** Does not apply to all national deviations of EN 50438			
● Standard features ○ Optional features - not available			
Provisional data, as of February 2011 - data at nominal conditions			
Type designation	SB 2000HF-30	SB 2500HF-30	SB 3000HF-30



Accessories



SMA Plug-in Grounding
PLUG-IN-GRD-10-NR



Quick Module RS485
+ multi-function relay
485QM-10-NR

SUNNY BOY 3600TL

SB 3600TL-20



High yields

- Maximum efficiency of 97 %
- Multi-string technology
- Transformerless, with H5 topology
- Shade management with OptiTrac Global Peak

Safe

- Integrated ESS DC switch-disconnector

Simple

- Easily accessible connection area
- Cable connection without tools
- DC plug system SUNCLIX

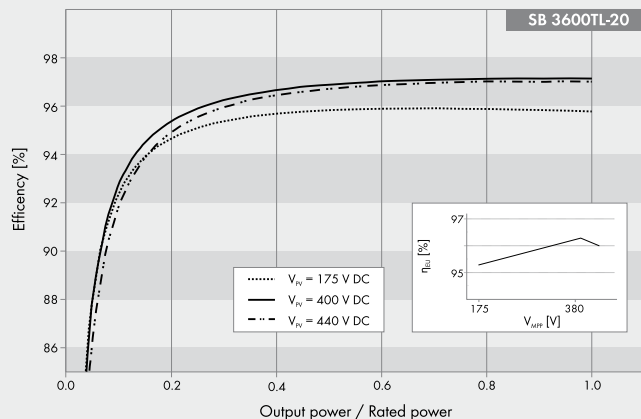
Communicative

- *Bluetooth*[®] technology as standard
- Multilingual graphic display
- Multi-function relay as standard

SUNNY BOY 3600TL

Perfection Plus. Usability. The transformerless Sunny Boy generation

More communicative, easier to use and more efficient than ever: This Sunny Boy is setting new standards in inverter technology. A modern graphic display, readout of daily values even after sunset, simplified installation concept and wireless communication via *Bluetooth*[®]: The new Sunny Boys fulfill every wish. With the new OptiTrac Global Peak shade management and an optimal efficiency of 97 %, the inverters ensure optimum solar yield. As transformerless, multi-string devices, the Sunny Boy 3600TL provide maximum flexibility for plant design, and is the first choice for demanding generator designs.



Accessories



RS485 interface
DM-485CB-10

* Does not apply to all national deviations of EN 50438

● Standard features ○ Optional features – Not available
Preliminary information - last updated: December 2011
Data at nominal conditions

Technical Data	Sunny Boy 3600TL
Input (DC)	
Max. DC power (@ $\cos \varphi = 1$)	3880 W
Max. input voltage	550 V
MPP voltage range / Rated input voltage	175 V / 440 V – 400 V
Min. input voltage / start input voltage	125 V / 150 V
Max. input current input A / input B	15 A / 15 A
Max. input current per string input A / input B	15 A / 15 A
Number of independent MPP inputs / strings per MPP input	2 / A: 2, B: 2
Output (AC)	
Rated power (@ 230 V, 50 Hz)	3680 W
Max. apparent AC power	3680 VA
Nominal AC voltage / range	220 V, 230 V, 240 V / 180 V – 280 V
AC power frequency / range	50 Hz, 60 Hz / -5 Hz ... +5 Hz
Rated power frequency / rated grid voltage	50 Hz / 230 V
Max. output current	16 A
Power factor at rated power	1
Displacement power factor, configurable	–
Feed-in phases / connection phases	1 / 1
Efficiency	
Max. efficiency / European efficiency	97 % / 96.3 %
Protective devices	
Input-side disconnection device	●
Ground fault monitoring / grid monitoring	● / ●
DC surge arrester (type II), can be integrated	–
DC reverse polarity protection / AC short-circuit current capability / galvanically isolated	● / ● / –
All-pole-sensitive residual current monitoring unit	●
Protection class (as per IEC 62103) / overvoltage category (as per IEC 60664-1)	I / III
General Data	
Dimensions (W / H / D)	470 / 445 / 180 mm (18.5 / 17.5 / 7.1 inch)
Weight	25 kg / 55.12 lb
Operating temperature range	-25 °C ... +60 °C / -13 °F ... +140 °F
Noise emission (typical)	25 dB(A)
Self-consumption (at night)	0.5 W
Topology	transformerless
Cooling concept	Convection
Degree of protection (as per IEC 60529)	IP65
Degree of protection of connection area (according to IEC 60529)	IP54
Climatic category (per IEC 60721-3-4)	4K4H
Maximum permissible value for relative humidity (non-condensing)	100 %
Features	
DC connection	SUNCLIX
AC Connection	Spring clamp terminal
Display	Chart
Interface: RS485 / Bluetooth	○ / ●
Warranty: 5 / 10 / 15 / 20 / 25 years	● / ○ / ○ / ○ / ○
Multi-function relay	●
Certificates and licenses (more available on request)	CE, G83 / 1-1, EN 50438*
Type designation	SB 3600TL-20



SMA Factory Warranty

Applies solely to the following products: Sunny Boy, Windy Boy, Windy Boy Protection Box, Sunny Mini Central, Sunny Tripower, Sunny Beam, Sunny WebBox, Sunny Matrix, Sunny Sensor Box, Power Reducer Box, PV Offset Box.

The legal guaranty obligation of the seller of your device is not affected by this warranty and remains fully valid for 24 months from the date of delivery.

For the above named products, you receive an SMA factory warranty valid for 5 years from the date of purchase. The SMA factory warranty covers any costs which you incur for repair or replacement parts during the agreed period beginning at the date of purchase of the device, subject to the conditions listed below. This is not associated with a durability warranty.

You have the possibility of purchasing an extension of this SMA factory warranty within the 5 year term of the SMA factory warranty; this does not apply for the Sunny Beam and the PV Offset Box. The prices are based on the respective SMA price list valid at the time the warranty extension was signed.

Warranty Conditions

If a device becomes defective during the agreed SMA factory warranty period and provided that it will not be impossible or unreasonable, the device will be, as selected by SMA,

- repaired by SMA, or
- repaired on-site, or
- exchanged for a replacement device of equivalent value according to model and age.

In the latter case, the remainder of the warranty entitlement will be transferred to the replacement device and your entitlement will be documented at SMA.

Excessiveness in the meaning above exists in particular if the cost of the measures for SMA would be unreasonable

- in view of the value that the device would have without the defect,
- taking into account the significance of the defect, and
- after consideration of alternative workaround possibilities that SMA customers could revert to without significant inconvenience.

The factory warranty includes the costs of SMA for work and material for the restoration of faultless functioning in SMA's factory or for on-site repair work by SMA personnel. All other costs, particularly shipping costs, travel, and accommodation costs of SMA personnel for on-site repairs as well as costs of the customer's own employees are not included in the factory warranty.

When devices for private use are installed by natural persons in the EU region, Australia, China, India, Korea, Croatia, New Zealand, Norway, Switzerland, the US and the United Arab Emirates, the factory warranty also includes shipping costs or travel and accommodation costs of SMA service personnel for on-site repairs. This does not apply to islands and overseas territories of the indicated states.

To determine the warranty entitlement, please submit a copy of the purchasing invoice or a copy of the warranty certificate, if necessary including the receipt of the warranty extension. The type plate on the device must be completely legible. Otherwise, SMA is entitled to refuse to provide warranty services.

Please report defective devices with a brief error description to our SMA Serviceline. If we agree to a replacement, we generally send an equivalent replacement device, packaged appropriately for transport, within 2 working days. The defective device is to be packed in this transport packaging for return transport to SMA. All warranty services are free of charge only if the course of action was agreed with SMA in advance.

Scope of the Factory Warranty

The factory warranty does not cover damages that occur due to the following reasons:

- Transport damage
- Incorrect installation or commissioning
- Failure to observe the user manual, the installation guide, and the maintenance regulations
- Modifications, changes, or attempted repairs
- Incorrect use or inappropriate operation
- Insufficient ventilation of the device
- Failure to observe the applicable safety regulations (VDE standards, etc.)
- Force majeure (e.g., lightning, overvoltage, storm, fire)

Neither does it cover cosmetic defects which do not influence the energy production.

Claims that go beyond the rights cited in the warranty conditions, in particular claims for compensation for direct or indirect damages arising from the defective device, for compensation for costs arising from disassembly and installation, or loss of profits are not covered by the factory warranty, insofar SMA is not subject to statutory liability. In such cases, please contact the company that sold you the device. Possible claims in accordance with the law on product liability remain unaffected.

All claims arising from or in connection with this warranty are subject to German law. Kassel, Germany is the exclusive place of jurisdiction for all disputes arising from or in connection with this warranty.

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