



# SUNNY BOY 2000HF / 2500HF / 3000HF



A New Dimension



SUNNY BOY 2000HF / 2500HF / 3000HF

# A NEW DIMENSION

AMAZINGLY SIMPLE. REASSURINGLY EFFICIENT.

**Do you want promising prospects?  
Then the Sunny Boy HF is for you!**

There is no doubt about it – the new Sunny Boy with a high-frequency transformer is setting new standards in every sense of the phrase. No matter whether it comes to planning, connection, performance values, or design, the new Sunny Boy HF series is flexible, simple, efficient, and user-friendly.

## **Endless possibilities**

The new Sunny Boy HF series unites key advantages in terms of installation and sales, making your sales pitch easier: the easily accessible connection area with the new Quick Module pluggable communication unit accelerates both installation and configuration. The thin case design allows the unit to be placed at any mounting location – and the large in-operation graphic display offers all information at a glance. Combined with the high degree of efficiency, the new Sunny Boy HF inverters make a persuasive argument in every regard.





# FLEXIBLE PLANNING

UNIVERSAL DESIGN. INDIVIDUAL USE.

**Do you need more flexibility in your planning?  
The optimal solution is right here!**

We understand just how much there is to think about when planning a PV plant: a wide variety of module types, locations, and roof pitches often makes selecting the right inverter difficult. The problem: desired parameters do not always coincide with plans, and combination possibilities are not always as flexible as they should be. The all-too-common result: unwanted compromise when it comes to plant planning and

design. This is exactly where our engineers enter the picture. They have developed a solution – the new Sunny Boy HF series.

## **Designed for success**

The Sunny Boy HF offers a nearly unlimited range of options for the planning phase. A wide input voltage range of 175–700 volts means that most configurations can be covered by just two

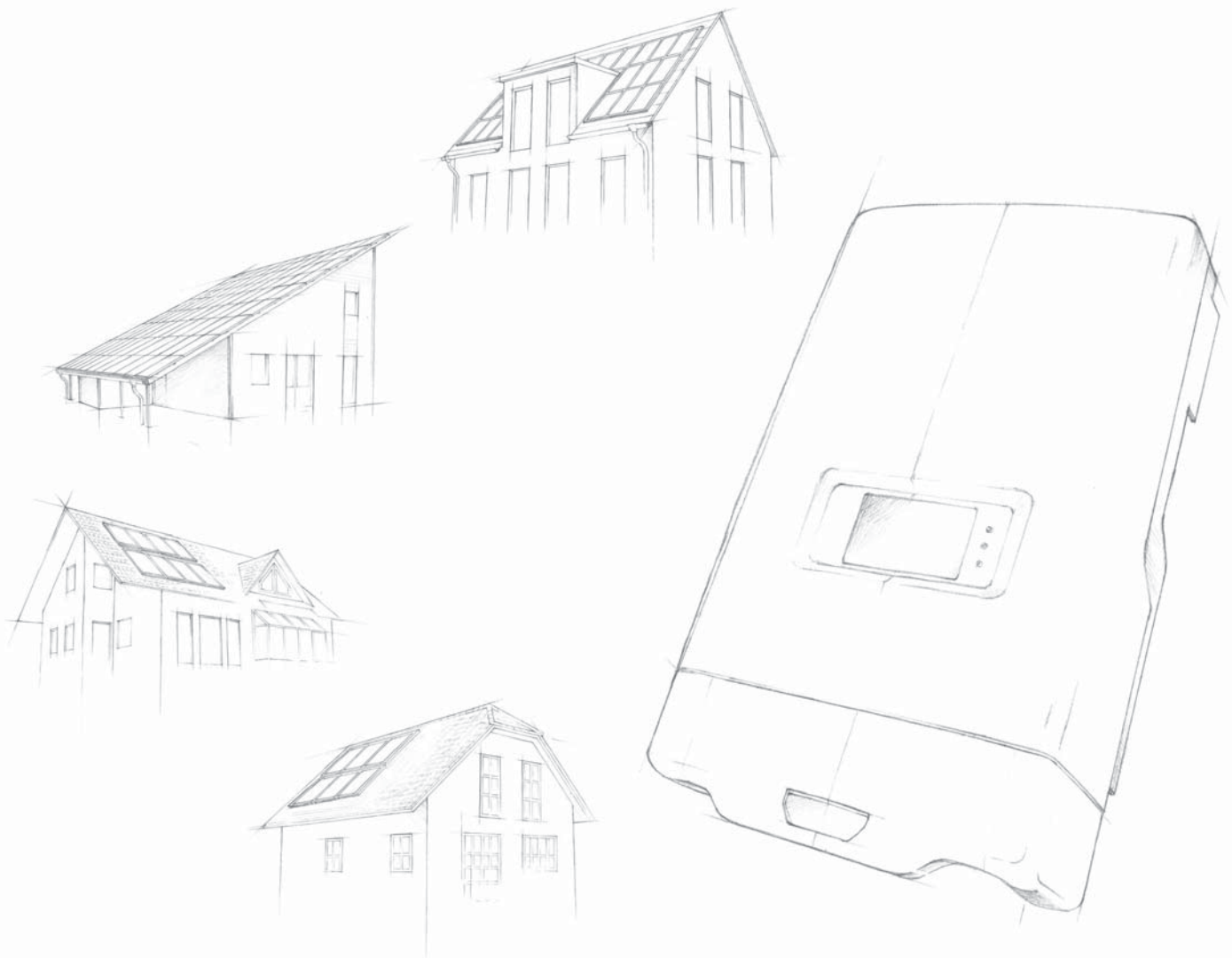
strings. That not only reduces the number of module strings, but also saves installation time and effort – and, thus, costs.

### Custom gradations

You can offer the new Sunny Boy HF in a spectrum of 2-3 kilowatts of nominal power: as the Sunny Boy 2000HF, Sunny Boy 2500HF, and Sunny Boy 3000HF. It ensures that your customers will always get the perfect device for their residential system.

### Down to earth

Grounding is fast and easy using the plug-in grounding module - all without opening the enclosure. The polarity is easily defined by the orientation in which the grounding set is attached. This new, simple form of grounding ensures that various types of cell technologies can be connected - from crystalline to thin-film modules.





# FAST INSTALLATION

SIMPLE BY ANY DEFINITION. PERFECT IN ALL CONDITIONS.

**Do you expect a simple installation?  
It does not get any easier than this!**

The new Sunny Boy HF offers a range of product features that allow for installation in no time at all. That saves both time and costs – for you and for your customers.

## **Thinner, lighter, easier**

The Sunny Boy has trimmed down and lightened up, making device handling even easier and safer for you – thanks also to recessed ergonomic grips.

## **Getting a handle on things**

Inverter configuration is now easier than ever before: simply pull the integrated DC isolating electronic solar switch (ESS) and you have access to the connection area, the new plug-in Quick Module communication and configuration unit, and plug-in grounding. All without ever unscrewing the lid.

## **Faster connection**

The easily accessible connection area with the innovative SUNCLIX DC connector system and AC-side connector ensures fast, safe installation.

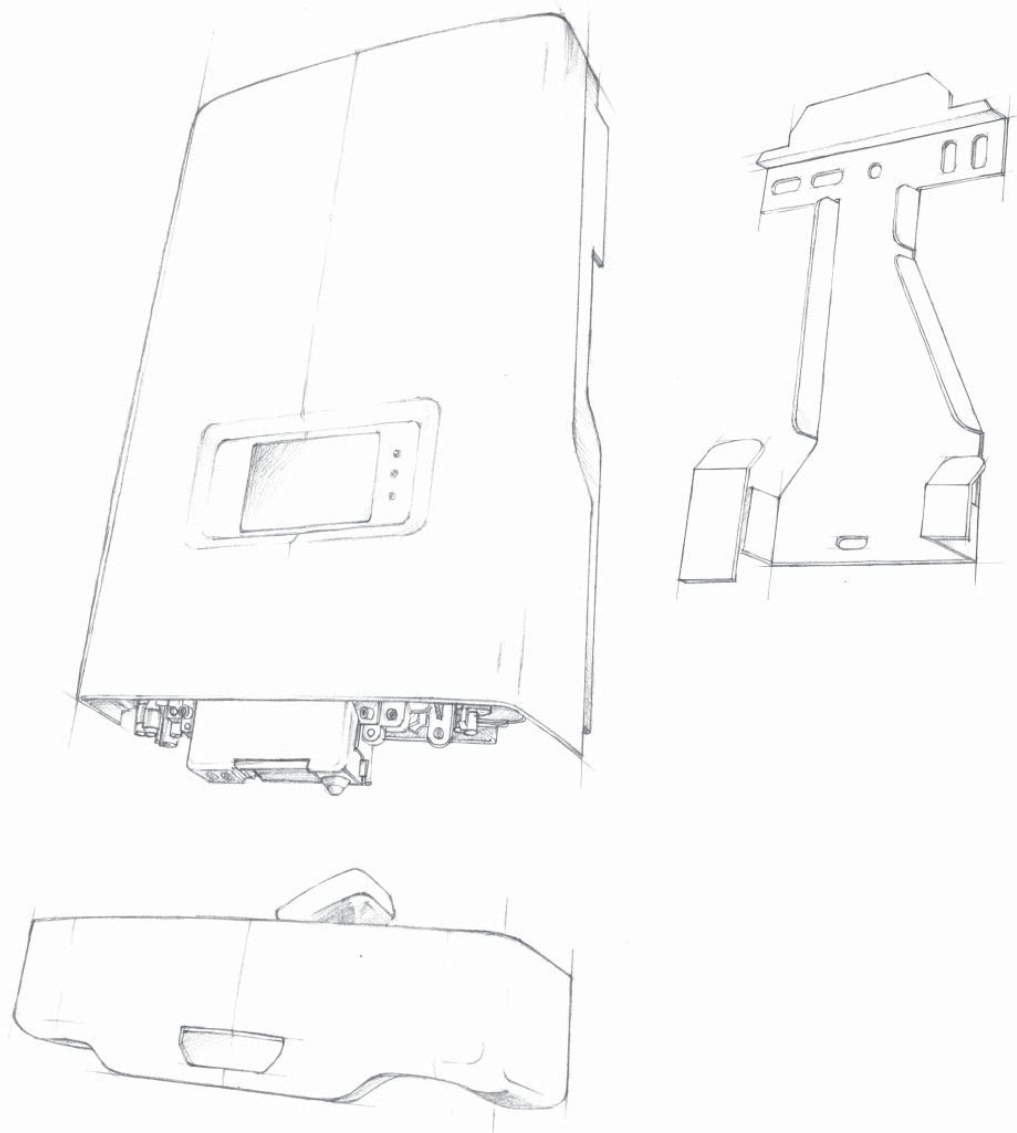
### **Brains, not brawn**

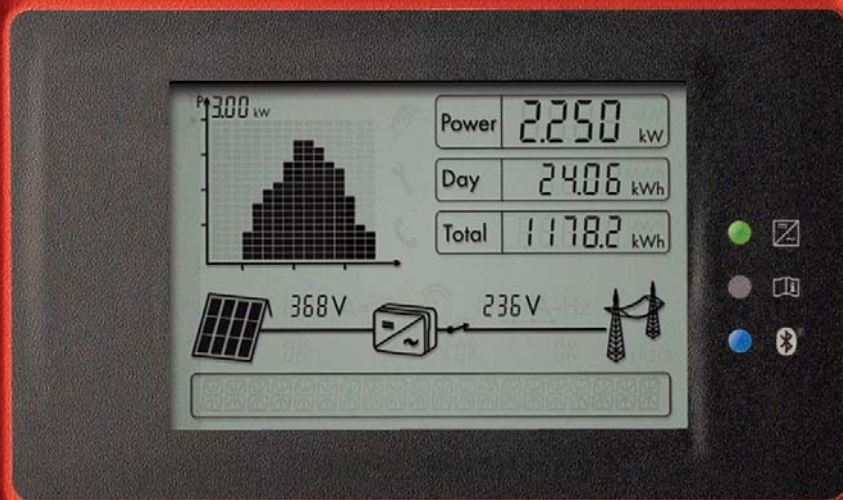
The integrated plug-in systems mean that you can leave your specialist tools in the garage when installing devices of the new Sunny Boy HF series. The process is fast, easy, and efficient.

### **An international outlook**

When installing the plant in different countries, two rotary switches allow

you to simply select the applicable country code and adapt the local country settings - no matter where in the world you are. The retail market particularly profits from considerably reduced costs through the country-independent device delivery and simplified logistics. Installers will set the country specifications when setting up the inverter on site.





# HIGHER YIELD

EFFICIENCY AS A CONSTANT. INNOVATION FOR MAXIMUM OUTPUT.

**Are your customers counting on optimum energy recovery?  
It's not just a question of efficiency!**

At SMA, it goes without saying: you and your customers can expect top marks when it comes to efficiency, all based on our knowledge, experience, and nearly 30 years of being the technology leader. When designing the new Sunny Boy, that's a standard we uphold. In addition to innovations such as OptiTrac and OptiCool, our galvanically isolating inverters offer the highest yields in their performance category.

## **Optimum returns through maximum yields**

The efficiency of every component of a PV plant plays a decisive role, especially for your customers. In addition to other characteristics, the efficiency factor of the inverter is a key aspect. The more the efficiency factor can be increased, the higher your customers' financial advantages will be. This is just one more area where the Sunny Boy

HF is setting new standards: with an efficiency factor of more than 96 percent, it is one of the highest in its class of galvanically isolated inverters.



### **Progress through new technologies**

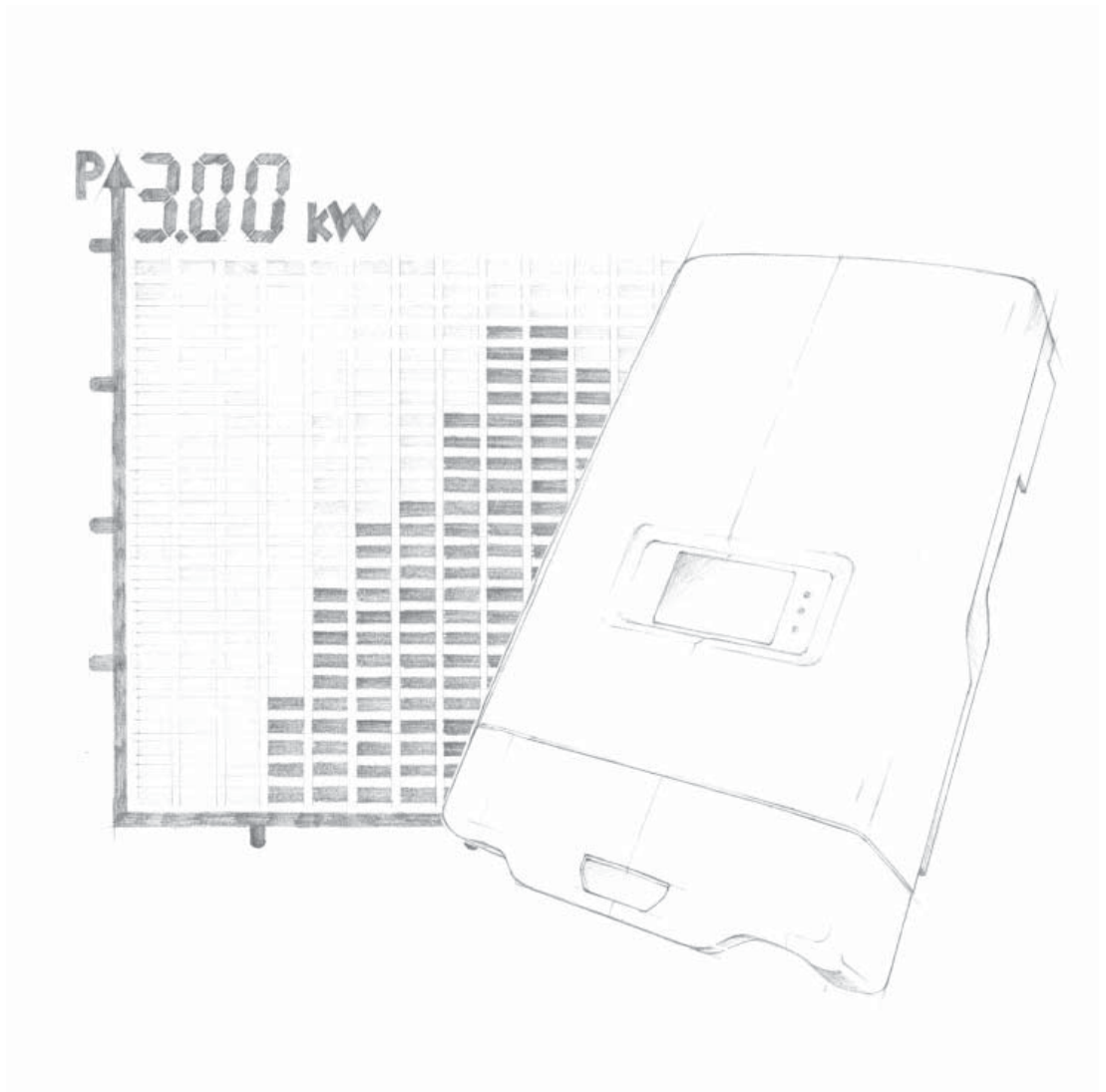
We wouldn't be the technological leader in the field of solar inverters if we weren't continually striving to optimize our devices and increase our efficiency. That's exactly what we did for aspects such as clouds and temperature management.

### **Sunny outlooks with OptiTrac**

The OptiTrac MPP tracking system allows every Sunny Boy HF to adapt to specific insolation conditions - especially on days with variable cloud cover. With OptiTrac, the system reacts quickly and with accuracy to changes in insolation values. The result: the PV generator works with an energy output up to 1.5 percent higher - a figure that's sure to please your customers.

### **Full power with OptiCool**

OptiCool intelligent temperature management ensures that the inverter's nominal power can be fed in, even in unfavorable temperature influence. The reason: air flow along the rear panel considerably lowers component temperatures.





EXTRAORDINARY

# USER-FRIENDLINESS

SMART DESIGN OUTSIDE. INTELLIGENT TECHNOLOGY INSIDE.

**Are you searching for superior user-friendliness?  
Find it and more here!**

Beautiful and simple: an elegant design, a large graphic display, and a *Bluetooth*® interface make the new Sunny Boy HF especially user-friendly. A wide range of advantages speak for themselves.

## Functional design

In today's world, an inverter is more than just a piece of technical equipment: customers expect it to live up to

their esthetic standards, too. The Sunny Boy inverter's new thin design makes it a real eye-catcher. At the same time, it's easy to install, even in tight spaces.

## At a glance

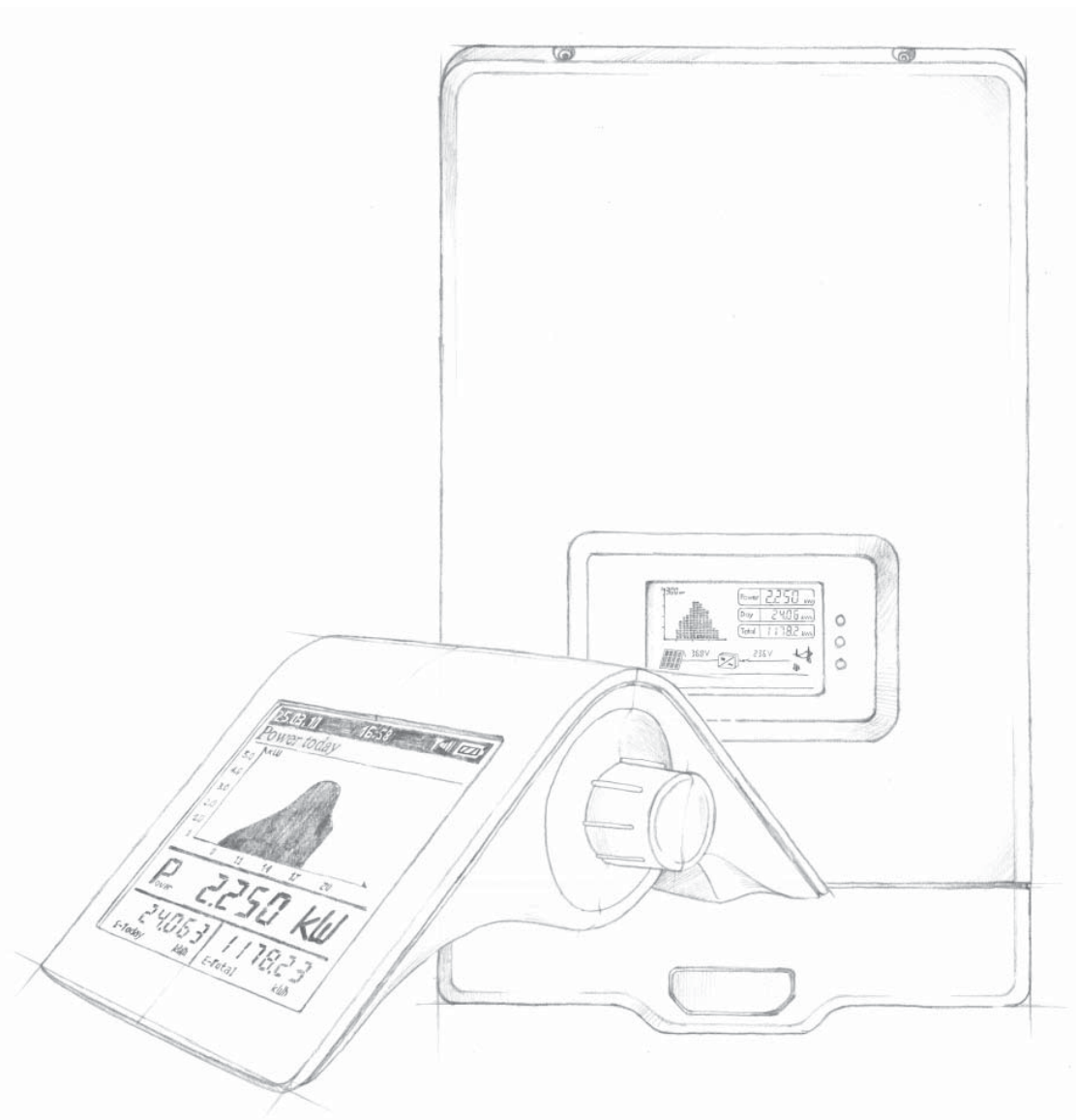
If your customers want to inform themselves about the operating data of their PV plant, the large graphic display speaks a language anyone can un-

derstand. It provides the current daily values and relevant plant information on a clear text display using definite symbols. Clear, user-friendly, and easy to understand.

**Bluetooth®: cordless, effortless**

It goes without saying that the new Sunny Boy comes equipped with tried-and-tested Bluetooth radio technology. An integrated interface on the inverter enables wireless plant com-

munication. That saves you and your customers installation time, effort, and costs – because no additional cables are required for monitoring using the Sunny Beam or the Sunny Explorer.



**Arguments that will win you over.  
Advantages that pay off.**

### **The ABCs of solar expertise: SMA**

We have been developing and producing inverters for photovoltaic plants for nearly 30 years. As the world's leading manufacturer with headquarters in Niestetal near Kassel, Germany, we offer a complete performance range: from kilowatts to megawatts; from small-scale plants to major projects; with over 4,000 current employees – and, globally, on four continents. Thanks to our wide product range, innovative technology, and competent customer service, we always have the best solution to offer.

### **Optimum returns through maximum yield**

The higher the efficiency factor of your plant's inverter, the greater your financial advantage is. This is just one more area where the Sunny Boy HF is setting new standards – its efficiency factor of over 96 percent is among the best in its performance category. In addition, efficiency is increased even more through the use of innovative solutions: for example, OptiTrac ensures the optimization of energy output on partly cloudy days, while OptiCool guarantees maximum device cooling. The result: higher yields.

### **Eyecatching design**

In today's world, the outward appearance of technical equipment must no longer contradict its esthetics. The thin design is optically appealing and, at the same time, incredibly easy to use.

### **At a glance**

Do you want to know more about the operating data of your PV plant? No problem: the large graphic display speaks a language everyone can understand. It offers all relevant information and data in a clear format. Additional information is displayed as a text line.

### **Bluetooth®: cordless, effortless**

The new Sunny Boy comes equipped with proven *Bluetooth* radio technology, ensuring cordless plant communications through Sunny Beam. And the Sunny Explorer gives you the perfect overview of your plant data on any *Bluetooth*-enabled computer.

**Do you have any questions? Do you require further information? Your local retailer will be happy to help!**





FOR PLANT OPERATORS

# EVERYTHING AT A GLANCE

INFORMATION ABOUT YOUR SUNNY BOY HF (FINANCIAL) INVESTMENT

**As a user, what can you expect?  
A new dimension of solar power generation!**

The inverter is the heart of every solar power plant: as the most important technical component, it converts the generated direct current into grid-conform alternating current, while also ensuring reliable yield monitoring, perfect grid management, and efficient power generation as an intelligent system manager. The new Sunny Boy HF proves itself as the best in its class: it is not only a financial investment with excellent efficiency factor, but also an investment in the future. Intelligent, economical, and environmental.

[www.SMA-Solar.com](http://www.SMA-Solar.com)



# Sunny Boy 2000HF / 2500HF / 3000HF

Technical data	Sunny Boy 2000HF	Sunny Boy 2500HF	Sunny Boy 3000HF
<b>Input (DC)</b>			
Max. DC power (@ $\cos \phi = 1$ )	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
<b>Output (AC)</b>			
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; $\pm 4.5$ Hz	50, 60 Hz; $\pm 4.5$ Hz	50, 60 Hz; $\pm 4.5$ Hz
Max. output current	11.4 A	14.2 A	16 A
Power factor ( $\cos \phi$ )	1	1	1
Phase conductors / connection phases	1 / 1	1 / 1	1 / 1
<b>Efficiency</b>			
Max. efficiency / Euro-eta	96.3 % / 95.0 %	96.3 % / 95.4 %	96.3 % / 95.5 %
<b>Protection devices</b>			
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
<b>General data</b>			
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)	www.SMA-Solar.com	www.SMA-Solar.com	www.SMA-Solar.com
Internal consumption: (night)	0.8 W	0.8 W	0.8 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
<b>Features</b>			
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, EN 50438**, C10/C11, PPDS		
* Variants for France under preparation			
** Does not apply to all national deviations of EN 50438			
● Standard features ○ Optional features — not available			
Provisional data, as of March 2010 - data at nominal conditions			
Type designation	SB 2000HF-30	SB 2500HF-30	SB 3000HF-30

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