



Perfection Plus. Usability.



The New Generation of SUNNY BOY

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Leading-edge technology meets user convenience

Whether utility-linked or off-grid, on a kilowatt or megawatt scale – for almost thirty years we have been developing and manufacturing solar inverters which are used in PV plants and solar power stations worldwide with a total installed system power amounting to over three gigawatts. A continuous process of innovation has made us market leaders in solar technology, and has brought forth products which outclass all other available devices as far as efficiency, dependability and user convenience are concerned.

And there are good reasons for this: the Sunny Boy 3000TL, 4000TL and 5000TL are the result not only of more than twenty-five years' experience in the design of PV inverters and the combined know-how of around 300 engineers. But also thanks to your feedback and ideas the new-generation Sunny Boy inverters have attained their unique level of user convenience. It's time you got to know them:

The SUNNY BOY 3000TL, 4000TL, 5000TL

The first of a completely new SMA inverter generation. No other devices on the market offer you this level of user friendliness coupled with state of the art technology and a brand-new communication and mounting concept.



Leading-Edge Technology

Maximum efficiency of 97 %
and wide input voltage range



Easy installation

New mounting concept and
intelligent design



Communication

Bluetooth® technology and graphic display



Universal

Simple country configuration



Leading-Edge Technology

Performance that pays off. High-tech innovation by SMA.

The latest leading-edge technology from SMA, as well as the accumulated know-how from over 20 years' leadership in inverter technology, have gone into the new generation of Sunny Boy. That's why they are once again breaking records in terms of efficiency and flexibility of use.

Your Advantages:

- Optimum solar yield due to peak efficiencies of 97 % with a wide input voltage range
- Highest flexibility for plant configuration due to Multi-String technology (Sunny Boy 4000TL and Sunny Boy 5000TL)
- All features standard, no retrofitting necessary
- Best tracking efficiency for solar inverters with the new MPP-Tracker Opti-Trac



Optimized efficiency

With maximum efficiency now boosted to 97 percent, the Sunny Boy inverters are amongst the devices with the highest efficiency on the market, and thus ensure your customers an optimum return even with complex plant configurations.

Multi-String technology

The Sunny Boy 4000TL and 5000TL are designed as Multi-String devices with two independent DC converters. This makes highly complex generator configurations easy to implement. The Sunny Boys' increased input voltage of 2 x 15 A and their wide input voltage range provide practically unlimited flexibility when designing your plant.

SMA know-how in a single device

All in all, the comprehensive range of technical features in the new Sunny Boy make it not only convenient and user-friendly, it also sets unsurpassed standards for quality and reliability.

High-tech is our standard

Each device is standardly equipped with all the latest features of SMA inverter technology:

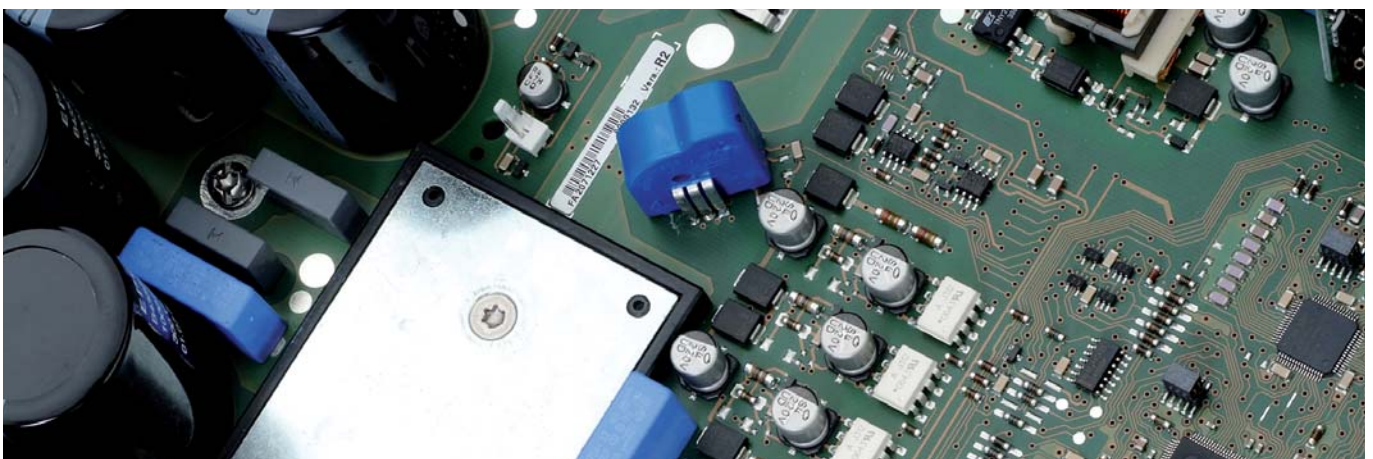
- Integrated DC disconnection: ESS
- MPP Tracker: OptiTrac
- Cooling system: OptiCool
- Switching concept: H5 topology

There is no question: you and your customers will just love the Sunny Boy 3000TL, 4000TL and 5000TL models!

SMA Solar Academy: find out more here ...

If you would like to get better acquainted with the new-generation Sunny Boy inverters, why not attend one of our basic or intensive "Inverter" seminar programs. Here, SMA specialists will explain all you need to know about the new generation - in easy to understand, all-encompassing units, in tune with field practice. For dates and further information please visit:

www.SMA.de/Solaracademy





Easy installation

Quick as a flash. Anywhere.

The new generation of Sunny Boys will revolutionize your installation. Besides, a completely new mounting and wiring concept, we have not only made the devices 20 percent lighter, but we have also reduced their volume. And in terms of anti-theft protection the Sunny Boy 3000TL, 4000TL and 5000TL leave nothing to be desired.

Your Advantages:

- Simple installation due to innovative mounting concept
- Special SMA clamp connectors enable rapid cabling without the use of tools
- Mounting on standard wall bracket
- Effective anti-theft protection
- Lower shipping and storage costs due to reduced weight and volume
- Ergonomic design
- Ideal for outdoor installation



Innovative mounting concept

The easy-access wiring compartment at the bottom front of the inverter enables quick and easy cabling. At the same time, the power electronics are housed safe from dirt and atmospheric exposure according to protection rating IP65. The innovative rear panel of the inverter is designed with an integrated guard to prevent unwanted removal. The Sunny Boy is easy to install not only on building walls, but also directly onto the generator or solar trees.

New cabling concept

The special spring-clamp terminals for the AC connection are yet another SMA innovation. They enable rapid wiring without the use of tools and assure a heavy-duty connection of the

cables. This means less cabling work, yet still greater reliability: each generator port has two connector pairs and is equipped with an easy-to-use snap connector system.

Effective theft protection

Recommended by the leading insurers of solar systems, the new, standard anti-theft feature reduces the insurer's risk – and your customers profit from lower insurance premiums.

Easy plant monitoring

The Sunny Boy 3000TL, 4000TL and 5000TL offer another easy form of plant monitoring by means of a dry signal contact, which can be used to trigger an acoustic signal or warning light if required.

Ergonomic design

We have considerably reduced the weight and volume of the Sunny Boy by introducing a new, die-cast casing of pleasing design. This not only makes installation easier in locations with difficult access, but also reduces transport and storage costs.





Communication

Intelligently connected. Beyond bounds.

Radio waves instead of wires – *Bluetooth* is the magic word. Every new-generation Sunny Boy is equipped with this innovative wireless standard. SMA is the first manufacturer to offer you completely new options in wireless plant monitoring. In addition, we have made the display even more user friendly and implemented some attractive extras. Your customers will love it.

Your Advantages:

- Wireless service interface *Bluetooth*
- Radio-based plant monitoring with Sunny Beam and Sunny WebBox
- Service, maintenance and plant diagnosis via notebook or PC, if desired
- Reliable data transfer via proven wireless technology
- Long-range reception enabled by automatic cross-linking
- Graphic display: complete data at a glance
- Convenient display of daily values even after sunset



Wireless plant diagnosis and maintenance with *Bluetooth*

If required, you can connect any Sunny Boy to a notebook or PC – and use this for wireless plant diagnosis. From device configuration, reading off current performance data, through to firmware updates – *Bluetooth* gives you easy, fast and reliable wireless control over any PV system. Special SMA technology enables the interactive communication of up to 100 inverters and the fast, safe transfer of high data volumes via *Bluetooth*.

Two communication interfaces

Your customers love the Sunny Beam and want to use the Sunny WebBox

as a powerful data logger? No problem at all. Just hook up both the Sunny Beam and the Sunny WebBox and they will be able to communicate via *Bluetooth*.

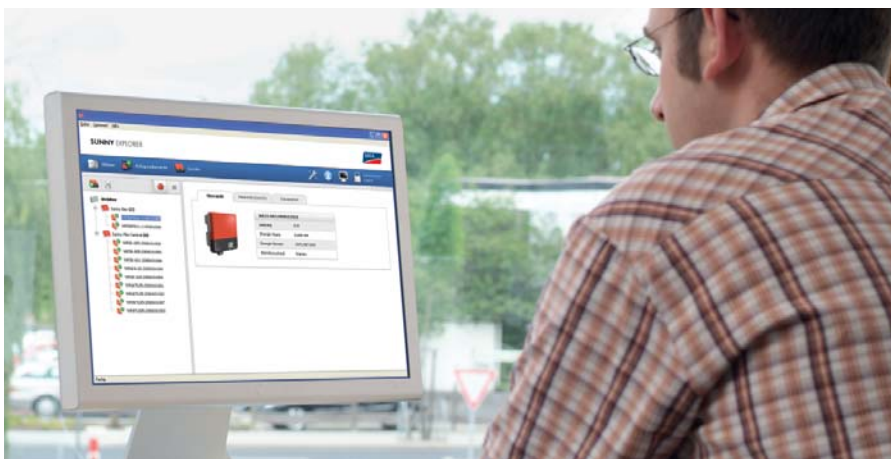
Easy retrofitting

Need to enlarge an existing plant? Again not a problem. The new Sunny Boy generation can be integrated into any existing PV plant and its communication features will be compatible with all previous SMA devices.

Yours to decide: use proven SMA technology as you have in the past, or retrofit your wire-based communication facility via RS485.

New graphic display

Complete data at a glance: current performance data is now presented in chart form on a graphic display, thus giving you fast, user-friendly and easy to grasp updates on plant status. Additional information in your chosen language can be shown in a supplementary text line on the display screen. Incidentally, from now on your customers can monitor operating performance and all relevant daily values even at night with a display that still functions after sunset.





Universal

International configuration. The world at the flip of a switch.

English, Spanish or German required? The Sunny Boy speaks every language. Highly innovative SMA technology in the new Sunny Boy generation enables you to configure country settings more easily and conveniently than ever.

Your Advantages:

- Easy country configuration without having to connect the device
- Cost reduction due to simplified logistics and international compatibility
- Additional country-specific data updates at any time via SD card
- Wireless *Bluetooth* standard enables implementation worldwide

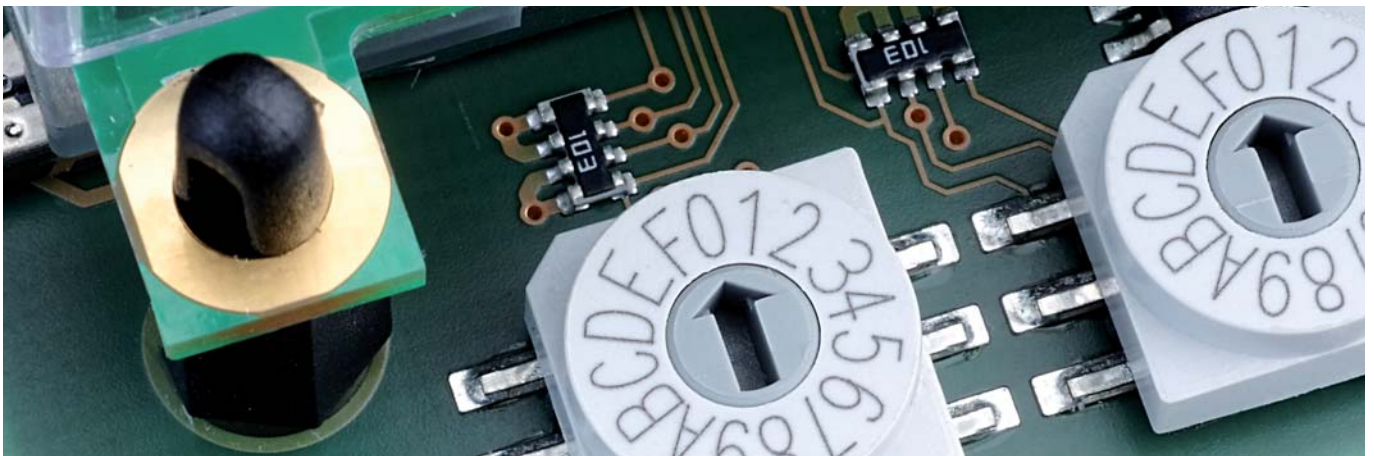


Simple country configuration

Two switches – it's that simple: select the respective country code and set the appropriate country configuration regardless of your location – no need for any power supply or prior commissioning of the inverter. Above all, distributors will benefit from the tangible cost reductions brought about by the universality of the device and the simplified logistics involved – the secret being that the configuration of country settings is carried out by the contractor during commissioning on-site.

Worldwide implementation

Since wireless *Bluetooth* technology uses a globally available frequency band, all devices which communicate via *Bluetooth* are operational worldwide. The country settings also include automatic configuration of the language of operation for the selected country. For any country settings not initially included we can supply the necessary update via SD card quickly and easily. Of course, Sunny Boy inverters are also fully equipped to deal with grid parameters in an international context: they are able to feed solar energy into practically any grid without a problem.



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	SB 3000TL-20	SB 4000TL-20	SB 5000TL-20
Input (DC)			
Max. DC-power	3200 W	4200 W	5300 W
Max. DC-voltage	550 V	550 V	550 V
PV voltage range, MPPT	125 V - 440 V	125 V - 440 V	125 V - 440 V
Recommended range at nominal power	188 V - 440 V	175 V - 440 V	175 V - 440 V
Max. input current	17 A	2 x 15 A	2 x 15 A
Number of MPP-trackers	1	2	2
Max. number of strings (parallel)	2	2 x 2	2 x 2
Output (AC)			
Nominal AC-output	3000 W	4000 W	4600 W
Max. AC-power	3000 W	4000 W	5000 W
Max. output current	16 A	22 A	22 A
Nominal AC voltage / range	220 V - 240 V / 180 V - 280 V	220 V - 240 V / 180 V - 280 V	220 V - 240 V / 180 V - 280 V
AC grid frequency / range	50 Hz, 60 Hz / ± 5 Hz	50 Hz, 60 Hz / ± 5 Hz	50 Hz, 60 Hz / ± 5 Hz
Power factor (cos ϕ)	1	1	1
AC connection	single-phase	single-phase	single-phase
Efficiency			
Max. efficiency	97.0 %	97.0 %	97.0 %
Euro ETA	96.3 %	96.4 %	96.5 %
Protection systems			
DC reverse polarity protection	●	●	●
DC load disconnecting switch ESS	●	●	●
AC short-circuit protection	●	●	●
Ground fault monitoring	●	●	●
Grid monitoring (SMA Grid Guard)	●	●	●
Integrated all-pole sensitive leakage current monitoring unit	●	●	●
General Data			
Dimensions (W / H / D) in mm	470 x 445 x 180	470 x 445 x 180	470 x 445 x 180
Weight	22 kg	25 kg	25 kg
Operating temperature range	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C
Noise emission	≤ 25 dB(A)	≤ 29 dB(A)	≤ 29 dB(A)
Consumption: operating (standby) / night	< 10 W / < 0.5 W	< 10 W / < 0.5 W	< 10 W / < 0.5 W
Topology	transformerless	transformerless	transformerless
Cooling concept	convection	OptiCool	OptiCool
Installation: indoor / outdoor (electronics IP65 / connection compartment IP54)	●/●	●/●	●/●
Features			
DC connection: MC3 / MC4 / Tyco	○/●/○	○/●/○	○/●/○
AC-connection: spring-clamp terminals	●	●	●
Graphic display	●	●	●
Interfaces: Bluetooth / RS485	●/○	●/○	●/○
Warranty: 5 years / 10 years	●/○	●/○	●/○
Certificates and approvals	●/○	●/○	●/○
● Standard ○ Optional As per April 2009	www.SMA.de Data at nominal conditions	www.SMA.de Data at nominal conditions	www.SMA.de Data at nominal conditions

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