# SUNNY BOY
# 3.0-US / 3.8-US / 5.0-US / 6.0-US / 7.0-US / 7.7-US


### Value-Added Improvements

- World's first Secure Power Supply now offers up to 2,000 W
- Full grid management capabilities ensures a utility-compliant solution for any market

### Reduced Labor

- New Installation Assistant with direct access via smartphone minimizes time in the field
- Integrated disconnect simplifies equipment stocking and speeds installation

### Unmatched Flexibility

- SMA's proprietary OptiTrac™ Global Peak technology mitigates shade with ease
- Multiple independent MPPTs accommodate hundreds of stringing possibilities

### Trouble-Free Servicing

- Two-part enclosure concept allows for simple, expedited servicing
- Enhanced AFCI technology reduces false tripping while improving sensitivity in real arcs, greatly reducing unneeded service calls


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# 3.0-US / 3.8-US / 5.0-US / 6.0-US / 7.0-US / 7.7-US


## Reduce costs across your entire residential business model

The residential PV market is changing rapidly, and we understand that your bottom line matters more than ever. That's why we've designed a superior residential solution that will help you decrease costs throughout all stages of your business operations. The Sunny Boy 3.0-US/3.8-US/5.0-US/6.0-US/7.0-US/7.7-US join the SMA lineup of field-proven solar technology backed by the world's #1 service team, along with a wealth of improvements. Simple design, improved stocking and ordering, value driven sales support and streamlined installation are just some of the ways that SMA is working to help your business operate more efficiently.

| Technical data | Sunny Boy 6.0-US | | Sunny Boy 7.0-US * | | Sunny Boy 7.7-US * | |
|---|---|---|---|---|---|---|
| | 208 V | 240 V | 208 V | 240 V | 208 V | 240 V |
| **Input (DC)** | | | | | | |
| Max usable DC power | 5500 W | 6300 W | 6900 W | 7350 W | 6950 W | 8100 W |
| Max. DC Voltage | 600 V | | | | | |
| Rated MPP Voltage range | 220 – 480 V | | 245 - 480 V | | 270 - 480 V | |
| MPPT operating voltage range | 100 – 550 V | | | | | |
| Min. DC voltage / start voltage | 100 V / 125 V | | | | | |
| Max. operating input current per MPPT | 10 A | | | | | |
| Max. short circuit current per MPPT | 18 A | | | | | |
| Number of MPPT tracker / string per MPPT tracker | 3 / 1 | | | | | |
| **Output (AC)** | | | | | | |
| AC nominal power | 5200 W | 6000 W | 6660 W | 7000 W | 6660 W | 7680 W |
| Max. AC apparent power | 5200 VA | 6000 VA | 6660 VA | 7000 VA | 6660 VA | 7680 VA |
| Nominal voltage / adjustable | 208 V / ● | 240 V / ● | 208 V / ● | 240 V / ● | 208 V / ● | 240 V / ● |
| AC voltage range | 183 – 229 V | 211 – 264 V | 183 – 229 V | 211 – 264 V | 183 – 229 V | 211 – 264 V |
| AC grid frequency | 60 Hz / 50 Hz | | | | | |
| Max. output current | 25.0 A | 25.0 A | 32.0 A | 29.2 A | 32.0 A | 32.0 A |
| Power factor (cos φ) | 1 | | | | | |
| Output phases / line connections | 1 / 2 | | | | | |
| Harmonics | < 4 % | | | | | |
| **Efficiency** | | | | | | |
| Max. efficiency | 97.2 % | 97.6 % | 97.1 % * | 97.2 % * | 97.1 % * | 97.2 % * |
| CEC efficiency | 96.5 % | 97 % | 96.5 % * | 96.5 % * | 96.5 % * | 96.5 % * |
| **Protection devices** | | | | | | |
| DC disconnect device | ● | | | | | |
| DC reverse polarity protection | ● | | | | | |
| Ground fault monitoring / Grid monitoring | ● | | | | | |
| AC short circuit protection | ● | | | | | |
| All-pole sensitive residual current monitoring unit (RCMU) | ● | | | | | |
| Arc fault circuit interrupter (AFCI) | ● | | | | | |
| Protection class / overvoltage category | I / IV | | | | | |
| **General data** | | | | | | |
| Dimensions (W / H / D) in mm (in) | 535 x 730 x 198 (21.1 x 28.5 x 7.8) | | | | | |
| Packaging Dimensions (W / H / D) in mm (in) | 600 x 800 x 300 (23.6 x 31.5 x 11.8) | | | | | |
| Weight | 26 kg (57 lb) | | | | | |
| Packaging weight | 30 kg (66 lb) | | | | | |
| Operating temperature range | – 25°C ...+60°C | | | | | |
| Noise emission (typical) | 26 dB(A) | | 30 dB(A) * | | | |
| Internal power consumption at night | < 5 W | | | | | |
| Topology | Transformerless | | | | | |
| Cooling concept | Convection | | Fan | | | |
| **Features** | | | | | | |
| Secure Power Supply | ● | | | | | |
| Display (2 x 16 characters) | ● | | | | | |
| Interfaces: Ethernet / WLAN | ● / ● | | | | | |
| Sensor module / External WLAN antenna | o / o | | | | | |
| Warranty: 10 / 15 / 20 years | ●/o/o | | | | | |
| Certificates and approvals | UL 1741, UL 1998, UL 1699B, IEEE1547, FCC Part 15 (Class A & B), CAN/CSA V22.2 107.1-1 | | | | | |
| ● Standard features o Optional features – Not available Data at nominal conditions NOTE: US inverters ship with gray lids. * Preliminary data, UL pending | | | | | | |
| Type designation | SB6.0-1SP-US-40 | | SB7.0-1SP-US-40 | | SB7.7-1SP-US-40 | |

## SAME NAME, NEW GAME

The Sunny Boy 3.0-US through 7.7-US are once again raising the bar by offering improved performance, enhanced features, and most importantly, an economical approach to residential solar. Your business model is a value chain. The new Sunny Boy-US series can help you stay competitive in an increasingly price sensitive residential market by driving down costs across all of your business operations.

## SIMPLE, FLEXIBLE DESIGN

Speed the completion of customer proposals and maximize the efficiency of your design team with the Sunny Boy-US series, which provides a new level of flexibility in system design by offering:

» Hundreds of stringing configurations and multiple independent MPPTs

» SMA's proprietary OptiTrac™ Global Peak shade mitigation technology

» Diverse application options including on- and off-grid compatibility

## VALUE-DRIVEN SALES ENABLEMENT

SMA wants to enable your sales team by arming them with an abundance of feature/benefit support. Show your customers the value of the Sunny Boy-US series by utilizing:

» Secure Power Supply, now with 2,000 W of opportunity power in the event of a grid outage, as an increased value-add or upsell opportunity

» SMA's 35 year history and status as the #1 global inverter manufacturer instills homeowners with peace of mind and the long-term security they demand from a PV investment

» An economical solution for shade mitigation and the challenges of complex roofs

## IMPROVED STOCKING AND ORDERING

Ensure that your back office business operations run smoothly and succinctly while mitigating potential errors. The Sunny Boy-US series can help achieve cost savings in these areas by providing:

» An integrated DC disconnect that simplifies equipment stocking and allows for a single inverter part number

» All communications integrated into the inverter, eliminating the need to order additional equipment

## STREAMLINED INSTALLATION AND COMMISSIONING

Expedite your operations in the field by taking advantage of the new Sunny Boy's installer-friendly feature set including:

» Direct access via smartphone and utilization of SMA's Installation Assistant, which minimizes time/labor spent in the field and speeds the path to commissioning

» Improved communication—no need to install additional equipment

» Integrated DC disconnect that simplifies onsite logistics and eliminates the need to install a separate disconnect unit, speeding overall installation time

## SUPERIOR SERVICE

SMA understands the factors that contribute to lifetime PV ownership cost, that's why the Sunny Boy-US series was designed for maximum reliability and backstopped by an unmatched service offering. Benefit from:

» The new Sunny Boy's two-part enclosure concept that separates the connection unit from the power unit, which allows for simple, expedited servicing

» The #1 service team in the PV industry, as recognized by IMS research, with experience servicing an installed base of more than 40 GW