



# SUNNY BOY 5.0-US / 6.0-US

SB 5.0-1SP-US-40 / SB 6.0-1SP-US-40



**WORLD'S FIRST  
SECURE POWER SUPPLY**



OUTLET NOT INCLUDED

### 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

## SUNNY BOY 5.0-US/6.0-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 5.0-US/6.0-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.

# BOTTOM LINE SAVINGS. FROM THE FACTORY TO THE FIELD.

SMA understands that hard and soft cost reductions must be achieved in order to maintain a competitive presence in the market. That's why we've designed a superior residential solution that will help you decrease costs throughout all stages of your business model.



## SIMPLE, FLEXIBLE DESIGN

Speed the completion of customer proposals and maximize the efficiency of your design team with the Sunny Boy 5.0-US/6.0-US, which provides a new level of flexibility in system design by offering:

- » Hundreds of stringing configurations
- » 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 5.0-US/6.0-US 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 30 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
- » Complete grid-management capabilities, ensuring a utility-compliant solution for customers operating in any market





### IMPROVED STOCKING AND ORDERING

Ensure that your back office business operations run smoothly and succinctly while mitigating potential errors. The Sunny Boy 5.0-US/6.0-US 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
- » Accurate order processing by eliminating the potential errors associated with incompatible disconnects provided to your installation team



### 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 capabilities that remove the 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 5.0-US/6.0-US was designed for maximum reliability and backstopped by an unmatched service offering. Benefit from:

- » Enhanced AFCI technology that improves resistance against false tripping while improving sensitivity in detecting real arcs, which greatly reduces unneeded service calls and increases safety
- » 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



## SAME NAME, NEW GAME

The Sunny Boy 5.0-US and 6.0-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.



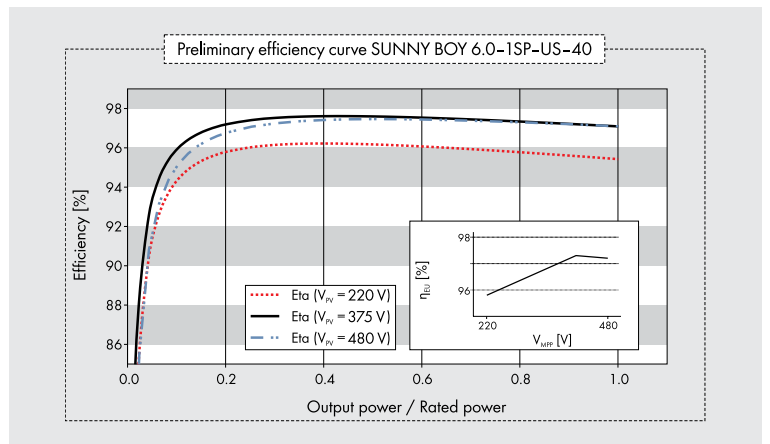
Technical data	Sunny Boy 5.0-US		Sunny Boy 6.0-US	
	208 V	240 V	208 V	240 V
<b>Input (DC)</b>				
Max usable DC power	5300 W	5300 W	5500 W	6300 W
Max. DC Voltage	600 V			
Rated MPP Voltage range	220 - 480 V			
MPPT operating voltage range	100 - 550 V			
Min. DC voltage / start voltage	100 V / 125 V			
Max. operating input current per MPPT	10 A			
Number of MPPT tracker / string per MPPT tracker	3 / 1			
<b>Output (AC)</b>				
AC nominal power	5000 W	5000 W	5200 W	6000 W
Max. AC apparent power	5000 VA	5000 VA	5200 VA	6000 VA
Nominal voltage / adjustable	208 V / ●	240 V / ●	208 V / ●	240 V / ●
AC voltage range	183 - 229 V	211 - 264 V	183 - 229 V	211 - 264 V
AC grid frequency	60 Hz / 50 Hz			
Max. output current	24.0 A	24.0 A	25.0 A	25.0 A
Power factor (cos φ)	1			
Output phases / line connections	1 / 2			
Harmonics	< 4 %			
<b>Efficiency</b>				
Max. efficiency	97.2 %	97.5 %	97.2 %	97.6 %
CEC efficiency	96.5 %	97 %	96.5 %	97 %
<b>Protection devices</b>				
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			
<b>General data</b>				
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)	< 25 dB(A)			
Internal power consumption at night	< 5 W			
Topology	Transformerless			
Cooling concept	Convection			
<b>Features</b>				
Secure Power Supply	●			
Display (2 x 16 characters)	●			
Interfaces: Ethernet / WLAN	● / ●			
Sensor module / External WLAN antenna	○ / ○			
Warranty: 10 / 15 / 20 years	● / ○ / ○			
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 ○ Optional features – Not available Data at nominal conditions NOTE: US inverters ship with gray lids.				
Type designation	SB 5.0-1SP-US-40	SB 5.0-1SP-US-40	SB 6.0-1SP-US-40	SB 6.0-1SP-US-40



Sensor module  
MD.SEN-US-40



External WLAN antenna  
EXTANT-US-40



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