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 ensure 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

SUNNY BOY
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

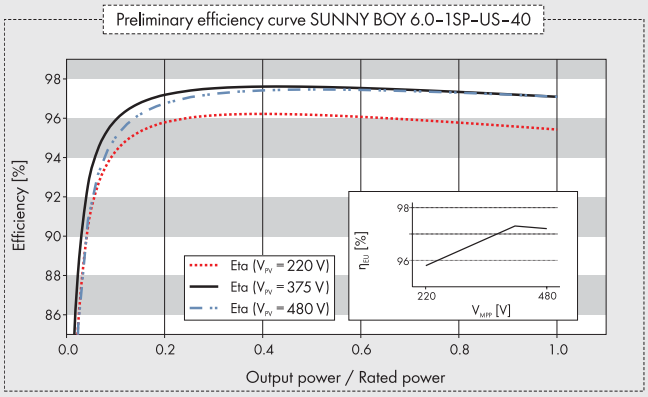
The residential PV market is changing rapidly, and we understand that your bottom line matters more than ever. That's why we've designed a superior residential solution that will help you decrease costs throughout all stages of your business operations. The Sunny Boy 3.0-US/3.8-US/5.0-US/6.0-US/7.0-US/7.7-US 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 3.0-US		Sunny Boy 3.8-US		Sunny Boy 5.0-US	
	208 V	240 V	208 V	240 V	208 V	240 V
Input (DC)						
Max. usable DC power	3100 W	3100 W	3450 W	4000 W	5150 W	5150 W
Max. DC voltage	600 V					
Rated MPP voltage range	155 - 480 V		195 - 480 V		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					
Max. short circuit current per MPPT	18 A					
Number of MPPT tracker / string per MPPT tracker	2/1				3 / 1	
Output (AC)						
AC nominal power	3000 W	3000 W	3330 W	3800 W	5000 W	5000 W
Max. AC apparent power	3000 VA	3000 VA	3330 VA	3800 VA	5000 VA	5000 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	14.5 A	12.5 A	16.0 A	16.0 A	24.0 A	24.0 A
Power factor (cos φ)	1					
Output phases / line connections	1 / 2					
Harmonics	< 4 %					
Efficiency						
Max. efficiency	97.2 %	97.6 %	97.2 %	97.5 %	97.2 %	97.5 %
CEC efficiency	96 %	96.5 %	96.5 %	96.5 %	96.5 %	97 %
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)	39 dB(A)					
Internal power consumption at night	< 5 W					
Topology	Transformerless					
Cooling concept	Convection					
Features						
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	SB3.0-1SP-US-40		SB3.8-1SP-US-40		SB5.0-1SP-US-40	

Accessories

Sensor module
MD.SEN-US-40

External WLAN antenna
EXTANT-US-40



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	5400 W	6200 W	6900 W	7200 W	6900 W	7950 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 %	97.5 %	97.1 %	97.5 %
CEC efficiency	96.5 %	97 %	96.5 %	97 %	96.5 %	97 %
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)	36 dB(A)		45 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.						
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

POLY CRYSTALLINE MODULE

310 / 315 / 320 / 325 / 330 / 335 / 340 / 345 / 350 / 355 Watts

Amur Leopard

Overview

A fully certified, premium quality and high efficiency module made with A Grade materials. Guaranteed positive tolerance of up to 5W, providing a higher output compared to our leading competitors.

Guaranteed mechanical resistance to severe weather conditions

5W

Guaranteed Positive Tolerance up to 5W

EL

100 % electro-luminescence tested

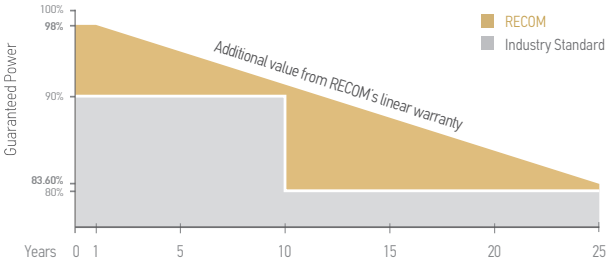
Key Benefits

- Certified by Independent Engineering Bodies
- Product Liability Insurance
- Engineered in EU
- 12 Years Limited Product Warranty
- Anti-PID Technology
- Low Carbon Footprint

Tests, Certifications and Warranties

Standard Tests	UL1703, IEC 61215, IEC 61730
Factory Quality Tests	ISO 9001: 2008, ISO 14001: 2004, ISO17025: 2005
Certifications	Fire Rating Type 1, conformity to CE, PV CYCLE
Insurance	Product liability insurance provided by Allianz
Wind and Snow Loads Testing	Module certified to withstand extreme wind (2400 Pascal) and snow loads (5400 Pascal)
Positive Tolerance	Guaranteed positive tolerance of up to 5W
Junction Box	Tigo TS4 Smart J-Box, IP67
Warranties	• 12-year limited product warranty • 15-year manufacturer warranty on 88.55% of the nominal performance • 25-year transferable linear power output warranty

Linear Performance Warranty



First Year Output	≥ 98%	2-24 Year Decline	≤ 0.60%	25 Year Output	≥ 83.60%

POLY CRYSTALLINE MODULE

RCM-xxx-6PA (xxx=310-355)

Electrical Characteristics

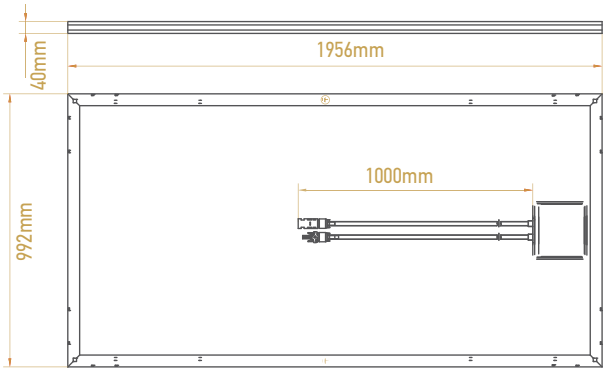
Rated Power	310W	315W	320W	325W	330W	335W	340W	345W	350W	355W
Power Tolerance	0~+5W	0~+5W	0~+5W	0~+5W	0~+5W	0~+5W	0~+5W	0~+5W	0~+5W	0~+5W
Maximum Power Voltage (Vmp)	36.99V	37.19V	37.28V	37.35V	37.43V	37.54V	37.69V	37.97V	38.22V	38.47V
Maximum Power Current (Imp)	8.39A	8.47A	8.59A	8.71A	8.82A	8.93A	9.03A	9.09A	9.17A	9.24A
Open Circuit Voltage (Voc)	45.66V	45.95V	46.22V	46.42V	46.55V	46.81V	47.07V	47.33V	47.58V	47.83V
Short Circuit Current (Isc)	8.89A	8.98A	9.06A	9.28A	9.49A	9.54A	9.59A	9.64A	9.71A	9.79A
Module Efficiency	15.99%	16.25%	16.32%	16.45%	16.63%	16.80%	17.10%	17.50%	17.75%	18.00%
Maximum Series Fuse	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A
Maximum System Voltage	1.000 VDC (IEC) - 1.000 VDC (UL) / 1.500 VDC (upon request)									

Tested at Standard Test Conditions. Measurement tolerances: ± 3%

Mechanical Data

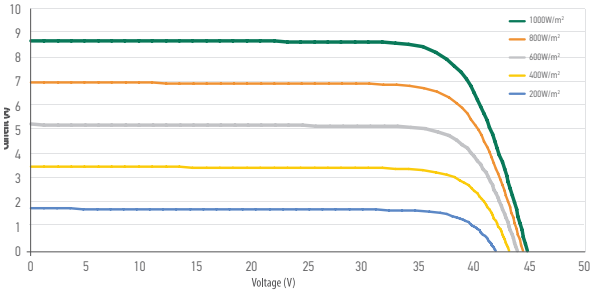
Dimensions	1956mm x 992mm x 40mm
Weight	24.0 Kg
Frame	Anodized aluminum
Front Glass	3.2mm ARC, low iron, tempered glass
Output Cables	TUV (2Pfg1169:2007), UL 4703, UL44 4.0mm² (0.006 in²), symmetrical lengths (-) 1000mm and (+) 1000mm, MC4 type connectors

Dimensions



I-V Curve

The module relative power loss at low light irradiance of 200W/m² is less than 3%.



Temperature Characteristics

Pmax Temperature Coefficient	-0.40% / °C
Voc Temperature Coefficient	-0.30% / °C
Isc Temperature Coefficient	+0.05% / °C
Operating Temperature	-40~+85 °C
Nominal Operating Cell Temperature (NOCT)	45 ± 2 °C

Packing Configuration

Container	40'HC
Pieces per Pallet	26
Pallets per Container	22
Pieces per Container	572

**Release 2018-05, v6.1.

RECOM assumes no liability or responsibility for any typographical error, layout error, misinformation, any other error, omission, contained herein.

recom-solar.com