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

Value-Added Improvements

- SunSpec certified technology for cost-effective module-level shutdown
- Advanced AFCI compliant to UL 1699B for arc fault protection

Reduced Labor

- New Installation Assistant with direct access via smartphone minimizes time in the field
- Advanced communication interface with fewer components creates 50% faster setup and commissioning

Optimized Power Production

- ShadeFix, SMA's proprietary shade management solution, produces more power than alternatives
- Reduced component count provides maximum system reliability

Trouble-Free Service

- SMA Service Mobile App provides simplified, expedited field service
- Equipped with SMA Smart Connected, a proactive service solution that is integrated into Sunny Portal

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

Power with a purpose

The residential PV market is changing rapidly. Your bottom line matters more than ever—so we've designed a superior residential solution to help you decrease costs at every stage 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. This improved residential solution features ShadeFix, SMA's proprietary technology that optimizes system performance. ShadeFix also provides superior power production with a reduced component count versus competitors, which provides maximum reliability. No other optimized solution generates more power or is as easy as systems featuring SMA ShadeFix and SunSpec certified devices. Finally, SMA Smart Connected will automatically detect errors and initiate the repair and replacement process so that installers can reduce service calls and save time and money.

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. PV power	4800 Wp		6144 Wp		8000 Wp	
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	3840 W	5000 W	5000 W
Max. AC apparent power	3000 VA	3000 VA	3330 VA	3840 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	21.0 A
Power factor (cos φ) / harmonics	1 / < 4 %					
Output phases / line connections	1 / 2					
Efficiency						
Max. efficiency	97.2 %	97.6 %	97.3 %	97.6 %	97.3 %	97.6 %
CEC efficiency	96.0 %	96.5 %	96.5 %	96.5 %	96.5 %	97.0 %
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 / packaging weight	26 kg (57 lb) / 30 kg (66 lb)					
Temperature range: operating / non-operating	-25°C ...+60°C / -40°C ...+60°C					
Environmental protection rating	NEMA 3R					
Noise emission (typical)	39 dB(A)					
Internal power consumption at night	< 5 W					
Topology / cooling concept	transformerless / convection					
Features						
Ethernet ports	2					
Secure Power Supply	●*					
Display (2 x 16 characters)	●					
2.4 GHz WLAN / External WLAN antenna	●/○					
ShadeFix technology for string level optimization	●					
Cellular (4G / 3G) / Revenue Grade Meter	○/○**					
Warranty: 10 / 15 / 20 years ***	●/○/○					
Certificates and approvals	UL 1741, UL 1741 SA incl. CA Rule 21 RSD, UL 1998, UL 1699B Ed. 1, IEEE1547, FCC Part 15 (Class A & B), CAN/CSA V22.2 107.1-1, HECO Rule 14H, PV Rapid Shutdown System Equipment					
● Standard features ○ Optional features – Not available						
NOTE: US inverters ship with gray lids. Data at nominal conditions * Not compatible with SunSpec shutdown devices **Standard in SBX.X-1TP-US-41						
Type designation	SB3.0-1SP-US-41 / SB3.0-1TP-US-41		SB3.8-1SP-US-41 / SB3.8-1TP-US-41		SB5.0-1SP-US-41 / SB5.0-1TP-US-41	

Accessories

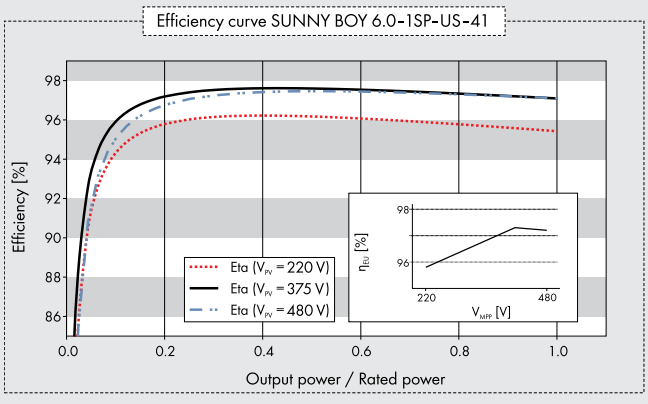
External WLAN antenna
EXTANT-US-40

SunSpec Certified
Rapid Shutdown
Receivers

Revenue Grade
Meter Kit
RGM05KIT-US-10

Cellular Modem Kit
CELLMODKIT-US-10

*** Listed warranty terms are applicable in SMA-designated primary support countries, including the U.S., Canada, and Mexico. Reduced terms or restrictions may apply in other Americas regions and territories including the Pacific and Caribbean.



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. PV power	9600 Wp		11200 Wp		12320 Wp	
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) / harmonics	1 / < 4 %					
Output phases / line connections	1 / 2					
Efficiency						
Max. efficiency	97.3 %	97.7 %	97.3 %	97.9 %	97.3 %	97.5 %
CEC efficiency	96.5 %	97.0 %	96.5 %	97.0 %	96.5 %	97.0 %
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 / packaging weight	26 kg (57 lb) / 30 kg (66 lb)					
Temperature range: operating / non-operating	-25°C ...+60°C / -40°C ...+60°C					
Environmental protection rating	NEMA 3R					
Noise emission (typical)	39 dB(A)		45 dB(A)			
Internal power consumption at night	< 5 W					
Topology / cooling concept	transformerless / convection		transformerless / fan			
Features						
Ethernet ports	2					
Secure Power Supply	●*					
Display (2 x 16 characters)	●					
2.4 GHz WLAN / External WLAN antenna	●/o					
ShadeFix technology for string level optimization	●					
Cellular (4G / 3G) / Revenue Grade Meter	o/o**					
Warranty: 10 / 15 / 20 years ***	●/o/o					
Certificates and approvals	UL 1741, UL 1741 SA incl. CA Rule 21 RSD, UL 1998, UL 1699B Ed. 1, IEEE1547, FCC Part 15 (Class A & B), CAN/CSA V22.2 107.1-1, HECO Rule 14H, PV Rapid Shutdown System Equipment					
● Standard features o Optional features – Not available						
NOTE: US inverters ship with gray lids. Data at nominal conditions * Not compatible with SunSpec shutdown devices **Standard in SBX.X-1TP-US-41						
Type designation	SB6.0-1SP-US-41 / SB6.0-1TP-US-41		SB7.0-1SP-US-41 / SB7.0-1TP-US-41		SB7.7-1SP-US-41 / SB7.7-1TP-US-41	

POWER+ SOLUTION

The SMA Power+ Solution combines legendary SMA inverter performance and SunSpec certified shutdown devices in one cost-effective, comprehensive package. In addition, SMA ShadeFix technology optimizes power production and provides greater reliability than alternatives.

This rapid shutdown solution fulfills UL 1741, NEC 2014, and NEC 2017 requirements and is certified to the power line-based SunSpec Rapid Shutdown communication signal over DC wires, making it the most simple and cost-effective rapid shutdown solution on the market.

Visit www.SMA-America.com for more information.