/ SBSE3.8-US-50 / SBSE4.8-US-50 / SBSE5.8-US-50 / SBSE7.7-US-50 / SBSE9.6-US-50* / SBSE11.5-US-50*

Preliminary

Sunny Boy Smart Energy-US

3.8 / 4.8 / 5.8 / 7.7
9.6* / 11.5*

The perfect solution for solar installers

powered by ennexOS

SMA Smart Connected

SMA ShadeFix STRING LEVEL OPTIMIZATION

SMA ArcFix

Ultimate flexibility
- 200% DC/AC design capability
- PV, Hybrid and AC coupling in one
- 3 or 4 MPPT optimizing channels
- Larger power classes*

Easy installation
- Smaller and lighter, eases mounting
- 2-in-1 solution saves time, wall space and electrical upgrades
- Rapid commissioning via built-in SunSpec Certified RSD transmitter

Complete reliability
- No need for complex microinverters or optimizers
- 10-year warranty, extendable to 25
- Energy security with or without a battery

New, modern design
- Fresh aesthetic look, with more functional capabilities
- Curved, easy-open cover

Quick commissioning
- SMA 360° app saves installers time and money
- Scan, tap and connect multiple devices from your mobile device or tablet

For over 40 years, SMA has been the leader in solar energy and the new SMA Home Energy Solutions will continue this trajectory. Installers choose SMA for reliability, performance and innovation.

The center of this new home solution is the Sunny Boy Smart Energy (SBSE-US) hybrid inverter. This groundbreaking inverter combines the functions of a PV and battery inverter into a single unit, keeping electrical upgrades to a minimum. SBSE-US features modular add-on options including the new SMA Energy Meter and Backup Secure that enhance the systems' performance and offer peace of mind to the homeowner.

Sunny Boy Smart Energy is packed with new technology, including an integrated system manager, SMA 360° and Energy apps, SunSpec RSD transmitter, ShadeFix optimization (with 3 MPPTs), SMA Arc Fix, SMART Connected and more.

Trust in SMA America, your leader in residential energy - building reliable, high performance and innovative solutions, with support you can depend on.

* Upcoming

Technical data	SBSE 3.8	SBSE 4.8	SBSE 5.8	SBSE 7.7	SBSE 9.6*	SBSE 11.5*
Input PV (DC)						
Max. PV array power (200% oversizing)	7600 Wp	9600 Wp	11600 Wp	15400 Wp	19200 Wp	23000 Wp
Max. DC voltage	600 V					
MPP voltage range	60 – 480 V					
Startup input voltage	66 Vdc					
Max. usable current input per MPPT	15 A					
Max. short-circuit current input per MPPT	30 A (the sum at all inputs must not exceed 60A)				30 A	
Number of independent MPPT inputs / inputs per MPPT	3 / 1				4 / 1	
Connection of MPPT inputs in parallel	A and B				A and B / C and D	
Input Battery (DC)						
Battery type	TBD, see SMA List of Approved Batteries					
Voltage range	90 V to 500 V					
Max. charging current / max. discharging current	30 A / 30 A					
Number of independent battery inputs	1					
Max. charging power / max. discharging power	10000 W / 4032 W	10000 W / 5040 W	10000 W / 6084 W	10000 W / 8064 W	10000 W / 10080 W	10000 W / 12096 W
Output (AC)						
Max. apparent AC power	3840 VA	4800 VA	5760 VA	7650 VA	9600 VA	11520 VA
AC Rated power (at 240 V, 60 Hz)	3840 W	4800 W	5760 W	7650 W	9600 W	11520 W
AC Rated power (at 208 V, 60 Hz)	3328 W	4160 W	4992 W	6656 W	8320 W	9984 W
AC voltage rated and range	240 V (211 V to 264 V) or 208 V (183 V to 229 V)					
AC grid frequency / range	60 Hz / 55 Hz to 66 Hz					
Max. rated output current	16 A	20 A	24 A	32 A	40 A	48 A
Breaker (overcurrent protection)	20 A	25 A	30 A	40 A	50 A	60 A
Power factor at rated power	1 / adjustable 0.8 overexcited to 0.8 underexcited					
Efficiency						
Max. efficiency / CEC efficiency	97.5% / TBD					
Protective devices						
DC disconnect / DC reverse polarity protection	● / ●					
Arc fault circuit interrupter (AFCI)	●					
Ground fault monitoring / Grid monitoring	● / ●					
AC short circuit current capability	●					
All-pole-sensitive residual-current monitoring unit	●					
Protection class	I					
Overvoltage category grid / battery / PV	IV / II / II					
General Data						
Dimensions (W / H / D) / Weight	19.7 x 23.1 x 9.3 inches / 38.6 lb				20 x 29.5 x 8 inches / 50 lb	
Operating temperature range	−13 °F to +140 °F (−25 °C to +60 °C) with derating					
Noise emission, typical / Self-consumption (at night)	TBD / TBD					
Topology / cooling method	Transformerless / Natural convection					
Environmental protection rating	IP65 / Type 3S					
Equipment						
AC terminals / Ground Connection (AWG)	10 AWG – 6 AWG / 12 AWG – 6 AWG				10 AWG – 6 AWG	
Communication protocols	Modbus (SMA, SunSpec), Speedwire / Webconnect, SMA Battery Interface					
Interfaces: WLAN / Ethernet / BAT-CAN / RS-485	● / ● / ● / ●					
2.4 GHz WLAN	●					
Ethernet ports / Number of outputs	2 / 1 (Multi function relay 30 Vdc /1 A)					
Warranty: 10 / +5 / +10 / +15 years	● / ○ / ○ / ○					
Certificates and approvals (planned)	UL 62109-1, UL 1998, UL 1699B Ed. 1, UL9540, IEEE1547, FCC Part 15 (Class A & B), CAN CSA-C22.2, CA Rule 21, HECO Rule 14H, PV Rapid Shutdown System Equipment in accordance with UL1741, NEC 2020, NEC 2023 compliant					
SMA Smart Connected	●					
SMA ShadeFix (integrated shade optimization)	●					
SunSpec certified transmitter (Rapid Shutdown)	●					
SMA Backup Secure** (grid outage mode, with or without battery)						
Rated power (at 120 V, 60 Hz)	1920 W					
Max. apparent AC power	1920 VA					
Nominal AC voltage	120 V					
AC grid frequency	60 Hz					
Activation mode	Manual					
● Standard features ○ Optional features						
Type designation	SBSE3.8-US-50	SBSE4.8-US-50	SBSE5.8-US-50	SBSE7.7-US-50	SBSE9.6-US-50	SBSE11.5-US-50

* Upcoming **Backup Start module required to enable SMA Backup Secure in installations bound by NEC rapid shutdown requirements.

Accessories

SMA Energy Meter
EMETER-US-50

Backup Start module
BU-STRT-US-50

SMA Shutdown Initiator
RSI-US-50

SMA America, LLC

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