

PRELIMINARY SUNNY BOY SMART ENERGY

3.8-US / 4.8-US / 5.8-US / 7.7-US / 9.6-US / 11.4-US



Ultimate flexibility

- Larger power classes
- Up to 4 MPPT optimizing channels
- 200% DC/AC design capability
- Hybrid, PV only, and AC coupling in one

Easy installation

- Smaller and lighter, eases mounting
- 2-in-1 solution that saves time, wall space, and electrical upgrades
- SunSpec Certified Rapid Shutdown transmitter built-in

Complete reliability

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

Quick commissioning

- Intuitive SMA 360° app saves installers time and money
- Scan, tap, and connect multiple devices from your mobile device or tablet
- Step-by-step commissioning guide

SUNNY BOY SMART ENERGY

3.8-US / 4.8-US / 5.8-US / 7.7-US / 9.6-US / 11.4-US

The hybrid inverter at the heart of the SMA Energy System, with three backup options

For over 40 years, SMA has made using solar energy easier and more efficient. The SMA Energy System Home continues this tradition, empowering homeowners to generate and use even more sustainable energy. At the heart of the system is the new ground-breaking hybrid inverter, the Sunny Boy Smart Energy which enables both immediate energy use and energy storage in a single device, with three available backup options. The Sunny Boy Smart Energy shines with its high-speed battery charging capability. Conventional charging performance is challenged during transitional months by few hours of sunshine and plenty of cloud cover, but Sunny Boy Smart Energy's fast charging allows more solar power to be harvested and stored in those few hours, ready to power loads and reduce energy costs.

PRELIMINARY SUNNY BOY SMART ENERGY

3.8-US / 4.8-US / 5.8-US / 7.7-US / 9.6-US / 11.4-US

Technical data	SBSE 3.8	SBSE 4.8	SBSE 5.8	SBSE 7.7	SBSE 9.6	SBSE 11.4
Input PV (DC)						
Max. PV array power (200% oversizing)	7600 Wp	9600 Wp	11600 Wp	15400 Wp	19200 Wp	22800 Wp
Max. DC voltage	600 V	600 V	600 V	600 V	600 V	600 V
MPP voltage range	60 - 480 V	60 - 480 V	60 - 480 V	60 - 480 V	TBD - 480 V	TBD - 480 V
Rated input voltage / Startup input voltage	TBD / 60 V				TBD / 60 V	
Max. usable current input per MPPT	15 A				15 A	
Max. short-circuit current input per MPPT	30 A				34 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	HV / Lithium based (TBD)					
Voltage range / Rated input voltage	96 V to 500 V / 360 V					
Max. charging current / max. discharging current	30 A / 30 A					
Number of independent battery inputs	1					
Max. charging power / max. discharging power	TBD / 3800 W	TBD / 4800 W	TBD / 5800 W	TBD / 7700 W	TBD / 9600 W	TBD / 11400 W
Output (AC)						
Max. apparent AC power	3800 VA	4800 VA	5800 VA	7700 VA	9600 VA	11400 VA
AC Rated power (at 240 V, 60 Hz)	3800 W	4800 W	5800 W	7700 W	9600 W	11400 W
AC Rated power (at 208 V, 60 Hz)	TBD	TBD	TBD	TBD	TBD	TBD
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	47.5 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	98% / 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	III / II / II					
DC Type II SPD with monitoring (external)	○					
AC Type II SPD with monitoring (external, 3rd party)	○					
General Data						
Dimensions (W / H / D) / Weight	20 x 23 x 8 inches / 38 lb				20 x 29.5 x 8 inches / 50 lb	
Operating temperature range	−13 °F to +140 °F with derating					
Noise emission, typical / Self-consumption (at night)	25 dB(A) TBD / < 6W				50 dB(A) TBD / < 6W	
Topology / cooling method	Transformerless / Natural convection					
Environmental protection rating	IP65 / NEMA 3R					
Equipment						
AC terminals / PE Connection (AWG)	10 AWG - 6 AWG / 12 AWG - 6 AWG				10 AWG - 4 AWG	
Display via smartphone, tablet, laptop	○					
Communication protocols	Modbus (SMA, SunSpec), Speedwire/Webconnect / SMA Battery Interface / MODBUS RTU					
Interfaces: WLAN / Ethernet / BAT-CAN / RS-485	● / ● / ● / ●					
2.4 GHz WLAN / External WLAN antenna	● / ○					
Cellular (4G) / Revenue Grade Meter	○ / ○					
Ethernet ports / Number of outputs	2 / 1 (Multi function relay 30 Vdc / 1 A)					
SMA ShadeFix (integrated shade optimization)	●					
Warranty: 10 / 15 / 20 / 25 years	● / ○ / ○ / ○					
Certificates and permits (more available upon request)	UL 62109-1 / UL 1741 CRD / UL 62109-1 CRD					
Certificates and approvals (planned)	UL 1741 SB, 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, TBD					
SMA Smart Connected	●					
SunSpec certified transmitter (Rapid Shutdown)	●					

PRELIMINARY SUNNY BOY SMART ENERGY with SMA BACKUP* SECURE / SELECT / HOME

Technical data	SBSE 3.8	SBSE 4.8	SBSE 5.8	SBSE 7.7	SBSE 9.6	SBSE 11.4
SMA Backup Secure (grid outage mode)						
Rated power (at 120 V, 60 Hz)			1920 W			
Max. apparent AC power			1920 VA			
Output power / Output apparent power < 100 ms			150% PN			
Output power / Output apparent power < 30 s			125% PN			
Nominal AC voltage			120 V			
AC grid frequency			60 Hz			
Switching mode			Manual			
Type designation			TBD			
SMA Backup Select (grid outage mode)						
Rated power (at 120 V, 60 Hz)		3840 W			7680 W	
Max. apparent AC power		3840 VA			7680 VA	
Output power / Output apparent power < 100 ms			150% PN			
Output power / Output apparent power < 30 s			125% PN			
Nominal AC voltage			120 V			
AC grid frequency			60 Hz			
Switching mode / Switching time to backup mode			Automatic / TBD			
Type designation			TBD			
SMA Backup Home (grid outage mode)						
Rated power (at 120 V, 60 Hz)		7700 W			11400 W	
Max. apparent AC power		7700 VA			11400 VA	
Output power / Output apparent power < 100 ms			150% PN			
Output power / Output apparent power < 30 s			125% PN			
Nominal AC voltage			120 / 240 V			
AC grid frequency			60 Hz			
Switching mode / Switching time to backup mode			Automatic / TBD			
Type designation			TBD			

● Standard features ○ Optional features — Not available * SMA Backup options sold separately



Enjoy even greater electricity reliability with one of three backup options.

1 SMA BACKUPSECURE
Secured power supply
Access up to 1,900 W of power with a secure outlet connected directly to your inverter.

2 SMA BACKUPSELECT
Selected power supply
Get up to 3,800 W of power, with or without a battery, automatically sent to select loads in your home when the grid goes down.

3 SMA BACKUPHOME
Reliable power supply
When paired with a battery, store and access the full power of your PV system to power your home in the event of grid failure.



