

SUNNY BOY 1.5 / 2.5

with SMA SMART CONNECTED



SB1.5-1VL-40 / SB2.5-1VL-40



SMA
ShadeFix



SMA
Smart Connected

Compact

- One-person installation due to low weight of 9.2 kg
- Compact design means minimum space requirements

Easy to Use

- 100% plug and play installation
- Free online monitoring via SMA Energy App
- Automated service thanks to SMA Smart Connected
- Warranty extension from 5 to 10 years - free of charge

High Yields

- Use of surplus energy through dynamic active power limitation
- Yield increase without installation effort due to integrated shade management SMA ShadeFix

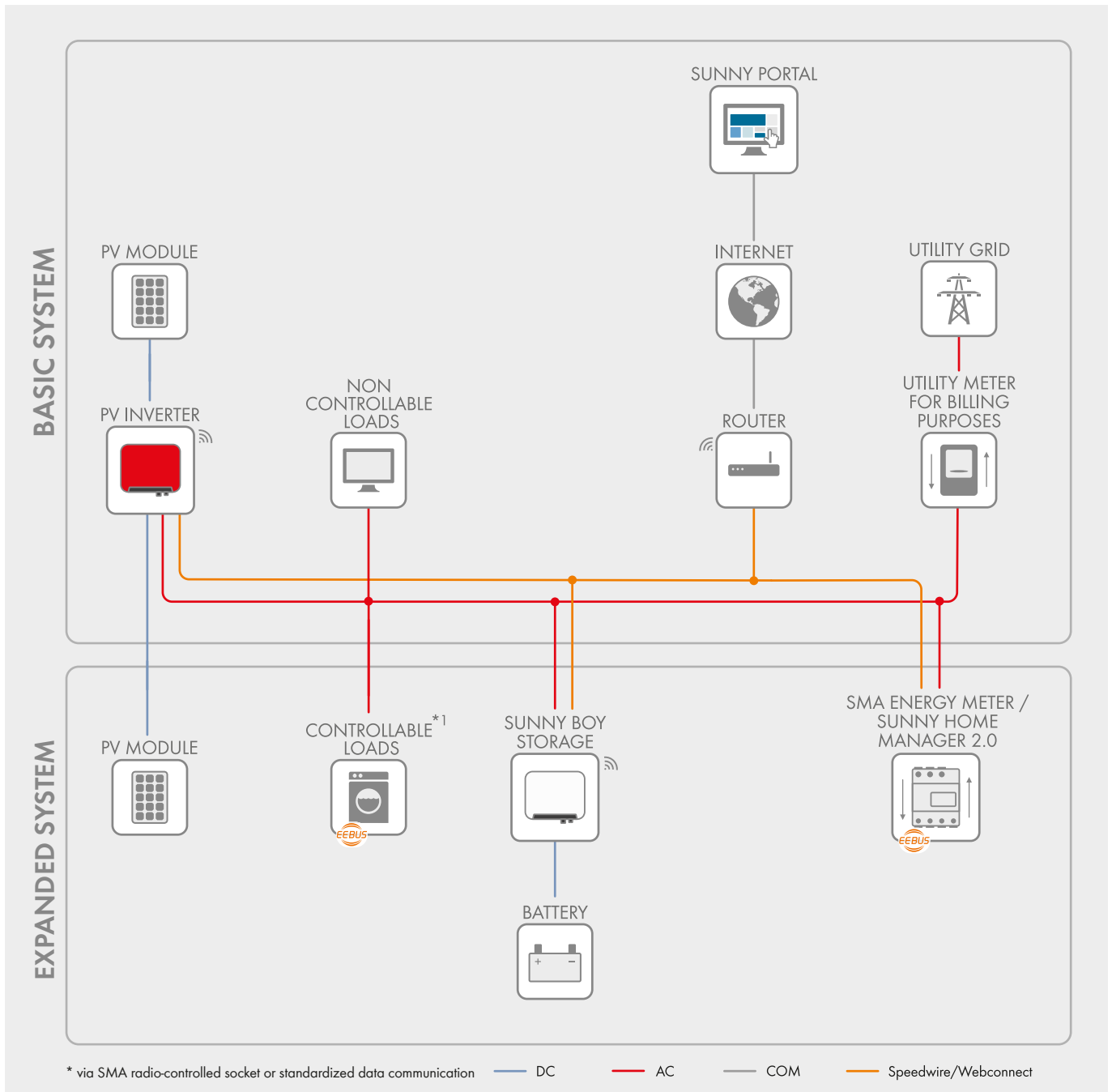
Combinable

- Wide input voltage range
- Intelligent energy management and storage solutions can be added anytime

SUNNY BOY 1.5 / 2.5

The best standard for small PV systems

The Sunny Boy 1.5 / 2.5 is the perfect inverter for customers with small PV systems. Thanks to its broad input voltage range of 80 V to 600 V, its versatility, flexibility in module compatibility and low weight for easy installation are impressive. After smooth commissioning via the integrated web interface, the Sunny Boy 1.5 / 2.5 is ideal for local monitoring via the device's own wireless home network or for online monitoring the SMA Energy app. Thanks to its integrated SMA Smart Connected service, this inverter offers ease and comfort for PV system operators and installers. The automatic inverter monitoring by SMA analyzes operation, reports irregularities and thus minimizes downtime.



BASIC SYSTEM functions

- Easy commissioning via integrated WLAN and Speedwire interface
- Maximum transparency thanks to visualization in Sunny Portal/SMA Energy App
- Safe investment through SMA Smart Connected
- Modbus as interface for third-party providers

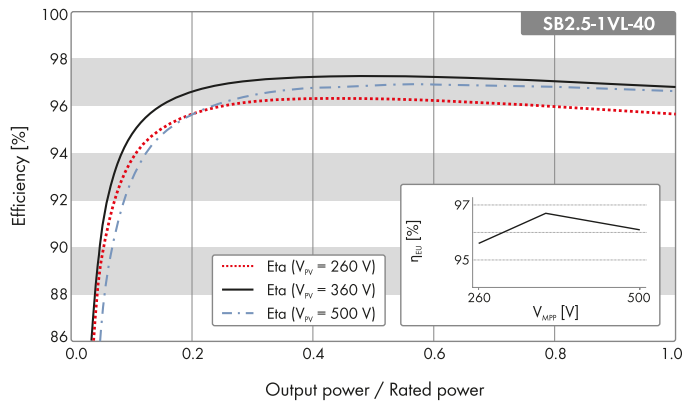
Expanded SYSTEM FUNCTIONS

- Basic system functions
- Reduction in purchased electricity and increase in self-consumption through use of stored solar energy
- Maximum energy use thanks to forecast-based charging
- Increased self-consumption thanks to intelligent load control
- Maximum system yield through SMA ShadeFix

With SMA Energy Meter

- Maximum system usage through dynamic limiting of feed-in to the grid between 0% and 100%
- Visualization of energy consumption

Efficiency curve



Technical Data	Sunny Boy 1.5	Sunny Boy 2.5
Input (DC)		
Max. PV array power	3000 Wp	5000 Wp
Max. input voltage	600 V	600 V
MPP voltage range	160 V to 500 V	260 V to 500 V
Rated input voltage		360 V
Min. input voltage / initial input voltage		50 V / 80 V
Max. usable input current (I _{DC,max}) per string		10 A
Max. short-circuit current per string		18 A
Number of independent MPP inputs / strings per MPP input		1 / 1
Output (AC)		
Rated power (at 230 V, 50 Hz)	1500 W	2500 W
Rated apparent power/ max. apparent power	1500 VA / 1500 VA	2500 VA / 2500 VA
Rated voltage/ range		220 V / 230 V / 240 V
Nominal voltage range		180 V to 280 V
Grid frequency / range		50 Hz, 60 Hz / -5 Hz to +5 Hz
Rated grid frequency / rated grid voltage		50 Hz / 230 V
Rated output current / max. output current	6.5 A / 7 A	11 A / 11 A
Power factor at rated power		1
Adjustable displacement power factor		0.8 overexcited to 0.8 underexcited
Feed-in phases / connection phases		1 / 1
Efficiency		
Max. efficiency / Euro-eta	97.2 % / 96.1 %	97.2 % / 96.7 %
Protective Devices		
DC side disconnection point		●
Ground fault monitoring / grid monitoring		● / ●
DC reverse polarity protection / AC short circuit current capability / galvanically isolated		● / ● / -
All-pole-sensitive residual-current monitoring unit		●
Protection class (according to IEC 61140) / surge category (according to IEC 60664-1)		I / III
Reverse current protection		Not required
General Data		
Dimensions (W / H / D)	460 / 357 / 122 mm (18.1 / 14.1 / 4.8 inches)	
Weight	9.2 kg (20.3 lbs)	
Operating temperature range	-40 °C to +60 °C (-40 °F to +140 °F)	
Noise emission, typical	< 25 dB	
Self-consumption (at night)	2.0 W	
Topology	Transformerless	
Cooling concept	Convection	
Degree of protection (according to IEC 60529)	IP65	
Climatic category (as per IEC 60721-3-4)	4K4H	
Max. permissible value for relative humidity (non-condensing)	100 %	
Features		
DC connection / AC connection	SUNCLIX / connector	
Display via smartphone, tablet, laptop	●	
Interfaces: WLAN / Ethernet	● / ●	
Communication protocols	Modbus (SMA, Sunspec), Webconnect	
Integrated shade management SMA ShadeFix	●	
Warranty: 5 / 10 / 15 years	● / ●* / ○	
Certificates and permits (more available upon request)	ABNT NBR 16149, AS4777, C10/11, CE, CEI0-21, Dansk Energy Typ A, DIN EN 62109-1/IEC 62109-1, DIN EN 62109-2/IEC 62109-2, EN50549-1:2019, G98/1-4, G99/1-5 Type A, IEC61727, IEC62116, NA/EEA-NE7 - CH 2020, NRS097-2-1, RfG konform, VDE-AR-N4105, VDE 0126-1-1, VFR2014	
Country availability of SMA Smart Connected	AU, AT, BE, CH, DE, ES, FR, IT, LU, NL, UK	
Type designation	SB 1.5-1VL-40	SB2.5-1VL-40

● Standard features ○ Optional features - not available Data in nominal conditions Last updated: 12/2022

* Device registration via the SMA product registration homepage (sma-service.com). The conditions of the SMA limited factory warranty apply. You can find additional information at SMA-Solar.com

SUNNY BOY 1.5 / 2.0 / 2.5



SMA ShadeFix – Intelligent energy yield optimization

Established product features and integrated software solutions will provide yield optimization throughout the system's entire service life. Even in the shade. SMA ShadeFix is a proprietary inverter software that optimizes energy yield in nearly every situation. SMA Smart Connected inverter monitoring offers enhanced safety by detecting errors at an early stage and automatically reporting them to the installer.



SMA Smart Connected – Proactive communication in the event of faults

SMA Smart Connected* allows you to monitor your inverter via the SMA Sunny Portal for free. If an inverter fails, SMA will proactively inform the system operator and the installer. This saves valuable working time and costs.

With SMA Smart Connected, the installer benefits from rapid diagnostics by SMA. This allows the installer to rectify the fault quickly and offer customers a range of additional and highly attractive services.

* For details, see document "Description of Services - SMA SMART CONNECTED"