SUNNY BOY 1.5 / 2.0 / 2.5
with SMA SMART CONNECTED

SB1.5-1VL-40 / SB2.0-1VL-40 / SB2.5-1VL-40

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 Sunny Places
- Automated service thanks to SMA Smart Connected

High Yields

- Use of surplus energy through dynamic active power limitation
- Shade management with OptiTrac Global Peak

Combinable

- Wide input voltage range
- Intelligent energy management and storage solutions can be added anytime
- Can be combined with TS4-R components for module optimization

SUNNY BOY 1.5 / 2.0 / 2.5

The new standard for small PV systems

The Sunny Boy 1.5 / 2.0 / 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 / 2.0 / 2.5 is ideal for local monitoring via the device's own wireless home network or for online monitoring with Sunny Portal or Sunny Places. 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.

SMA SMART CONNECTED

Integrated service for ease and comfort

SMA Smart Connected* is free monitoring of an inverter via the SMA Sunny Portal. If an inverter fails, SMA proactively informs the PV system owner and the installer. This saves valuable working time and costs.

With SMA Smart Connected, the installer benefits from rapid diagnoses by SMA. They can thus quickly rectify the fault and score points with the customer thanks to the additional, attractive services.

ACTIVATION OF SMA SMART CONNECTED

During registration of the system in the Sunny Portal, the installer activates SMA Smart Connected and benefits from automatic inverter monitoring by SMA.

AUTOMATIC INVERTER MONITORING

SMA takes on the job of inverter monitoring with SMA Smart Connected. SMA automatically checks the individual inverters for anomalies around the clock during operation. Every customer thus benefits from SMA's many years of experience.

PROACTIVE COMMUNICATION IN THE EVENT OF FAULTS

After a fault has been diagnosed and analyzed, SMA informs the installer and end customer immediately by email. Everyone is thus optimally prepared for the troubleshooting process. This minimizes downtime and saves time and money. Regular power reports also provide valuable information about the overall system.

REPLACEMENT SERVICE

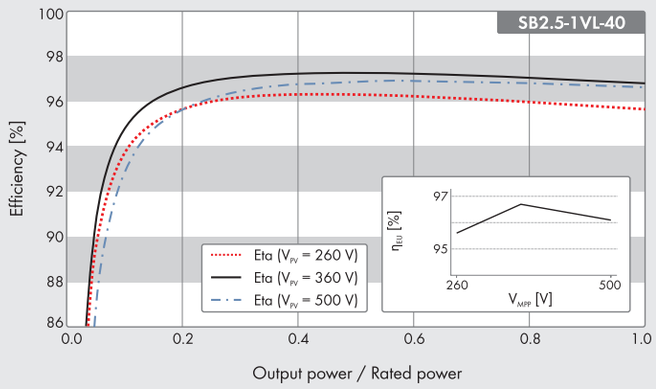
If a replacement device is necessary, SMA automatically supplies a new inverter within one to three days of the fault diagnosis. The installer can contact the PV system operator of their own accord and replace the inverter.

PERFORMANCE SERVICE

The PV system operator can claim compensation from SMA if the replacement inverter is not delivered within three days.

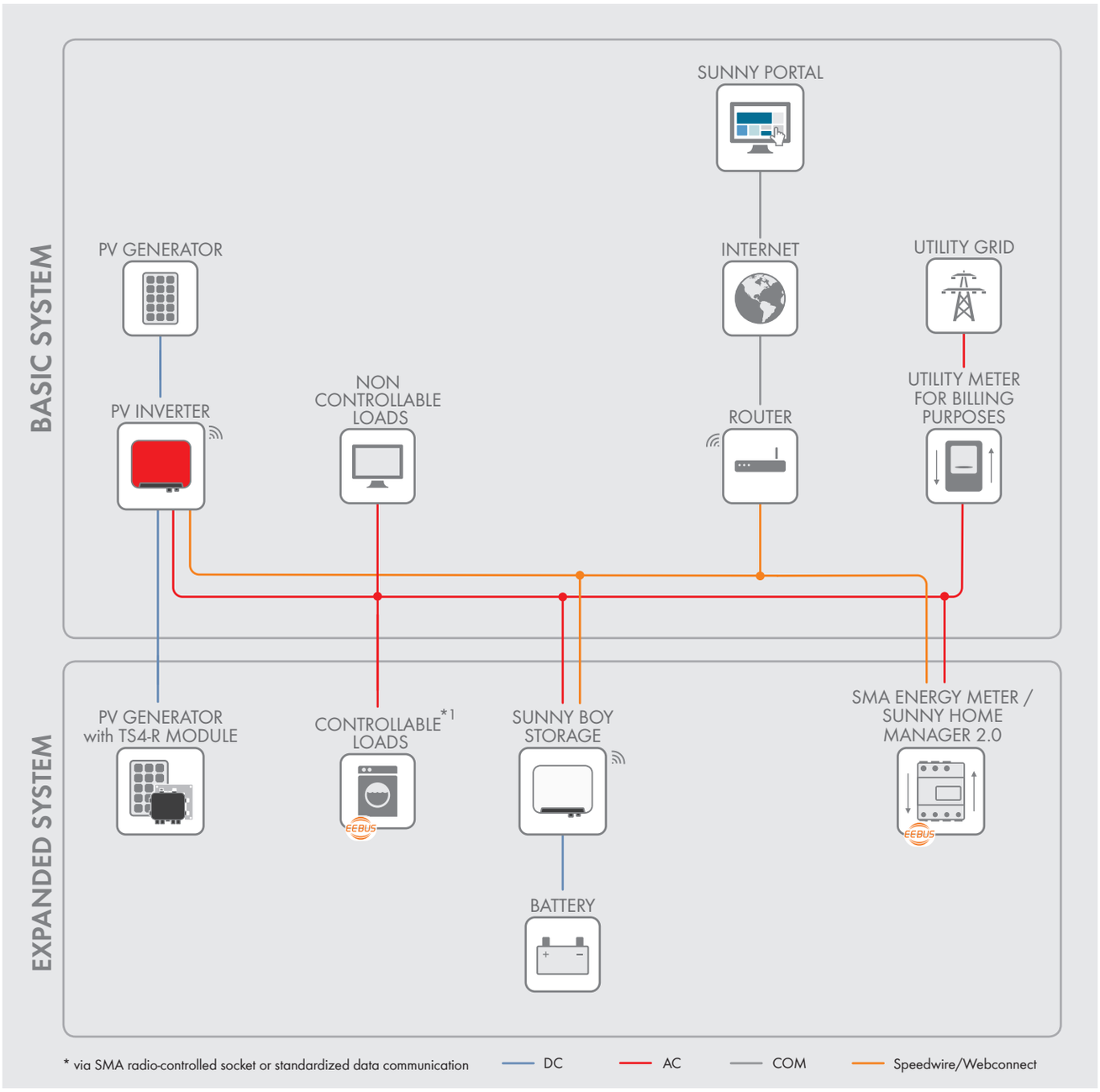
* Details: see document "Description of Services – SMA SMART CONNECTED"

Efficiency curve



● Standard features ○ Optional features – not available
Data in nominal conditions
Last updated: April 2019

Technical Data	Sunny Boy 1.5	Sunny Boy 2.0	Sunny Boy 2.5
Input (DC)			
Max. PV array power	3000 Wp	4000 Wp	5000 Wp
Max. input voltage	600 V	600 V	600 V
MPP voltage range	160 V to 500 V	210 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. input current 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	2000 W	2500 W
Max. apparent power AC	1500 VA	2000 VA	2500 VA
Nominal AC voltage	220 V / 230 V / 240 V		
Nominal AC voltage range	180 V to 280 V		
AC grid frequency / range	50 Hz, 60 Hz / −5 Hz to +5 Hz		
Rated grid frequency / rated grid voltage	50 Hz / 230 V		
Max. output current	7 A	9 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 % / 96.4 %	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		
Warranty: 5 / 10 / 15 / 20 years	● / ○ / ○ / ○		
Certificates and permits (more available upon request)	AS4777, C10/11, CE, CEI0-21, DIN EN 62109-1/IEC 62109-1, DIN EN 62109-2/IEC 62109-2, EN50438, G83/2, IEC61727, IEC62116, NBR16149, NEN-EN50438, 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	SB2.0-1VL-40	SB2.5-1VL-40



BASIC SYSTEM functions

- Easy commissioning via integrated WLAN and Speedwire interface
- Maximum transparency thanks to visualization in Sunny Portal/Sunny Places
- 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 Smart module technology

With SMA Energy Meter

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

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