

# SUNNY BOY 3.0 / 3.6 / 4.0 / 5.0 / 6.0 with SMA SMART CONNECTED



SB3.0-1AV-41 / SB3.6-1AV-41 / SB4.0-1AV-41 / SB5.0-1AV-41 / SB6.0-1AV-41



**Intelligent service with  
SMA Smart Connected**



**SMA ShadeFix**  
STRING LEVEL OPTIMIZATION

## Compact

- One-person installation due to low weight of 17.5 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
- Yield increase without installation effort due to integrated shade management SMA ShadeFix

## Combinable

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

## SUNNY BOY 3.0 / 3.6 / 4.0 / 5.0 / 6.0

Higher yields for private homes – intelligent solar power generation

The new Sunny Boy 3.0–6.0 ensures maximum energy yields for private homes. This inverter combines the integrated Service SMA Smart Connected service and intelligent technology for all ambient requirements. Thanks to its extremely light design, the device can be installed quickly and easily. The Sunny Boy can be commissioned quickly via smartphone or tablet thanks to its integrated web interface. For specific requirements on the roof, such as shading, the TS4-R module optimizers can be added into the system, with all communication and monitoring facilitated through the inverter. Current communication standards make the inverter future-proof, meaning intelligent energy management solutions as well as SMA storage solutions can be flexibly added anytime.

# SMA SMART CONNECTED

## The integrated service for ease and comfort

SMA Smart Connected\* is the free monitoring of the inverter via the SMA Sunny Portal. If there is an inverter fault, SMA proactively informs the PV system operator 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 attraction of additional services.



### ACTIVATION OF SMA SMART CONNECTED

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



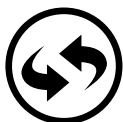
### AUTOMATIC INVERTER MONITORING

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 long 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 e-mail. Everyone is thus optimally prepared for the troubleshooting. This minimizes the downtime and saves time and money. The 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.

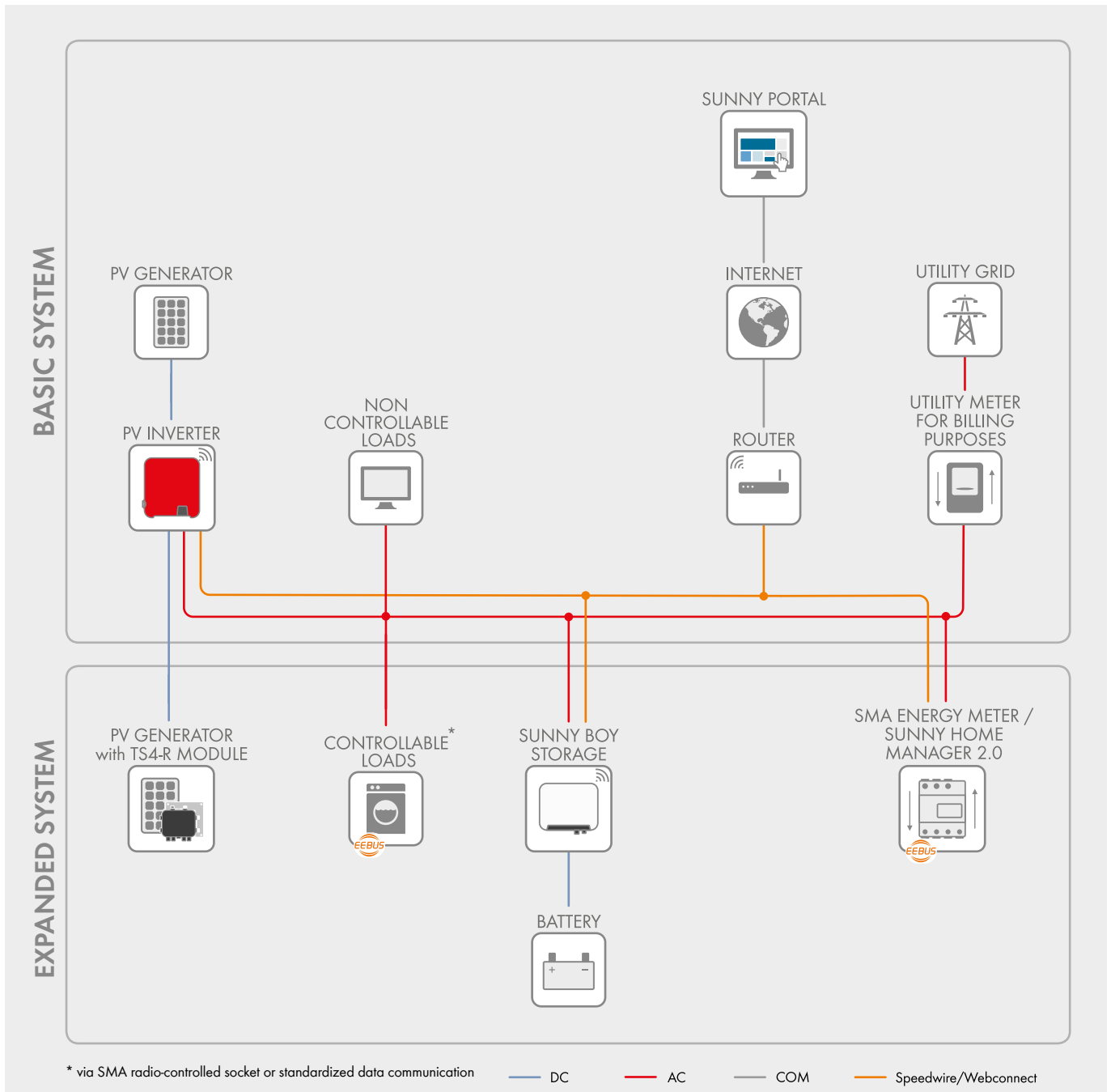


### PERFORMANCE SERVICE

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

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

| Technical data  | Sunny Boy 3.0  | Sunny Boy 3.6       | Sunny Boy 4.0       | Sunny Boy 5.0         | Sunny Boy 6.0       |
|---|--|---------------------|---------------------|-----------------------|---------------------|
| <b>Input (DC)</b>   |  |                     |                     |                       |                     |
| Max. generator power  | 5500 W <sub>p</sub>  | 5500 W <sub>p</sub> | 7500 W <sub>p</sub> | 7500 W <sub>p</sub>   | 9000 W <sub>p</sub> |
| Max. input voltage  | 600 V  |                     |                     |                       |                     |
| MPP voltage range   | 110 V to 500 V   | 130 V to 500 V      | 140 V to 500 V      | 175 V to 500 V        | 210 V to 500 V      |
| Rated input voltage   | 365 V  |                     |                     |                       |                     |
| Min. input voltage / initial input voltage  | 100 V / 125 V  |                     |                     |                       |                     |
| Max. input current input A / input B  | 15 A / 15 A  |                     |                     |                       |                     |
| Max. DC short-circuit current input A / input B   | 22 A / 22 A  |                     |                     |                       |                     |
| Number of independent MPP inputs / strings per MPP input  | 2 / A:2; B:2   |                     |                     |                       |                     |
| <b>Output (AC)</b>  |  |                     |                     |                       |                     |
| Rated power (at 230 V, 50 Hz)   | 3000 W   | 3680 W              | 4000 W              | 5000 W <sup>1)</sup>  | 6000 W              |
| Max. apparent power AC  | 3000 VA  | 3680 VA             | 4000 VA             | 5000 VA <sup>1)</sup> | 6000 W              |
| Nominal AC voltage / range  | 220 V, 230 V, 240 V / 180 V to 280 V   |                     |                     |                       |                     |
| AC power frequency / range  | 50 Hz, 60 Hz / -5 Hz to +5 Hz  |                     |                     |                       |                     |
| Rated power frequency / rated grid voltage  | 50 Hz / 230 V  |                     |                     |                       |                     |
| Max. output current   | 16 A   | 16 A                | 22 A <sup>2)</sup>  | 22 A <sup>2)</sup>    | 26.1 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  |                     |                     |                       |                     |
| <b>Efficiency</b>   |  |                     |                     |                       |                     |
| Max. efficiency / European Efficiency   | 97.0% / 96.4%  | 97.0% / 96.5%       | 97.0% / 96.5%       | 97.0% / 96.5%         | 97.0% / 96.6%       |
| <b>Protective devices</b>   |  |                     |                     |                       |                     |
| Input-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 (as per IEC 61140) / overvoltage category (according to IEC 60664-1)   | I / III  |                     |                     |                       |                     |
| <b>General data</b>   |  |                     |                     |                       |                     |
| Dimensions (W / H / D)  | 435 mm / 470 mm / 176 mm (17.1 inches / 18.5 inches / 6.9 inches)  |                     |                     |                       |                     |
| Weight  | 17.5 kg (38.5 lb)  |                     |                     |                       |                     |
| Operating temperature range   | -25 °C to +60 °C (-13 °F to +140 °F)   |                     |                     |                       |                     |
| Noise emission, typical   | 25 dB(A)   |                     |                     |                       |                     |
| Self-consumption (at night)   | 5.0 W  |                     |                     |                       |                     |
| Topology  | Transformerless  |                     |                     |                       |                     |
| Cooling method  | Convection   |                     |                     |                       |                     |
| Degree of protection (as per IEC 60529)   | IP65   |                     |                     |                       |                     |
| Climatic category (as per IEC 60721-3-4)  | 4K4H   |                     |                     |                       |                     |
| Max. permissible value for relative humidity (non-condensing)   | 100%   |                     |                     |                       |                     |
| <b>Equipment</b>  |  |                     |                     |                       |                     |
| DC connection / AC connection   | SUNCLIX / AC connector   |                     |                     |                       |                     |
| Display via smartphone, tablet, laptop  | ●  |                     |                     |                       |                     |
| Interfaces: WLAN / Ethernet / RS485   | ● / ● / ●  |                     |                     |                       |                     |
| Communication protocols   | Modbus (SMA, Sunspec), Webconnect, SMA Data, TS4-R   |                     |                     |                       |                     |
| Shade management: integrated SMA ShadeFix / TS4-R   | ● / ○  |                     |                     |                       |                     |
| Warranty: 5 / 10 / 15 years   | ● / ○ / ○  |                     |                     |                       |                     |
| Certificates and approvals (more available upon request)  | AS 4777.2, C10/11, CE, CEI 0-21, EN 50438, G59/3-4, G83/2-1, DIN EN 62109 / IEC 62109, NEN-EN50438, IEC-EN50438, NT_Ley20.571, ÖVE/ÖNORM E 8001-4-712 & TOR D4, PPDS, PPC, RD1699, TR3.2.1, UTE C15-712, VDE-AR-N 4105, VDE0126-1-1, VFR 2014, RfG compliant |                     |                     |                       |                     |
| Certificates and approvals (planned)  | DEWA, IEC 61727, IEC 62116, MEA, NBR16149, PEA, SI4777, TR3.2.2  |                     |                     |                       |                     |
| Country availability of SMA Smart Connected   | AU, AT, BE, CH, DE, ES, FR, IT, LU, NL, UK   |                     |                     |                       |                     |
| <p>● Standard features   ○ Optional features<br/> - Not available<br/> Data at nominal conditions   Status: 11/2019</p> <p>1) 4600 W / 4600 VA according to VDE-AR-N 4105<br/> 2) AS 4777: 21.7 A</p> |  |                     |                     |                       |                     |
| Type designation  | SB3.0-1AV-41   | SB3.6-1AV-41        | SB4.0-1AV-41        | SB5.0-1AV-41          | SB6.0-1AV-41        |



### BASIC SYSTEM functions

- Easy commissioning via integrated WLAN and Speedwire interface
- Maximum transparency thanks to visualization in the 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