

# SUNNY BOY 3.0 / 3.6 / 4.0 / 5.0

## With SMA SMART CONNECTED



SB3.0-1 AV-40 / SB3.6-1 AV-40 / SB4.0-1 AV-40 / SB5.0-1 AV-40



**What's new:**  
**The complete solution for**  
**100% ease and comfort**

### SMA Smart Connected

- Automatic inverter monitoring by SMA Service
- Investment security thanks to minimized downtimes and compensation, when applicable

### Easy installation

- Secure plug-and-play installation without opening the inverter
- Easy commissioning via smartphone or tablet
- Integrated export control with SMA Energy Meter

### Everything at a glance

- Direct access to inverter performance via smartphone or tablet
- Free online monitoring via Sunny Places

### Future-proof

- Communication via Ethernet and WLAN
- Upgrade with SMA energy storage and Smart Home solutions at any time

## SUNNY BOY 3.0 / 3.6 / 4.0 / 5.0

More than an inverter. Smaller, simpler and more convenient with SMA Smart Connected

The new Sunny Boy 3.0 - 5.0 succeeds the world's most installed residential string inverter, the Sunny Boy 3000 - 5000TL. It is more than just a PV inverter: delivered with SMA Smart Connected service, it is a complete package that offers PV system owners and installers true comfort and ease. The automatic inverter monitoring by SMA analyzes operation, reports irregularities and minimizes downtime.

In 3 kW to 5 kW power classes, the Sunny Boy is ideally suited to solar power generation in private homes. Thanks to its extremely light design and the modern user interface, the device can be easily and quickly installed. Current communication standards make the inverter future-proof, meaning SMA storage solutions and SMA Smart Home can be added at any time.

The world-leading Sunny Boy 3.0-5.0 provides PV system owners and installers with 100% ease and comfort.

# SUNNY BOY 3.0 / 3.6 / 4.0 / 5.0

## With SMA SMART CONNECTED

### Investment Security Included

SMA Smart Connected\* delivers free automatic monitoring and analysis of the inverter via the SMA WebService Sunny Portal. If an inverter fails, SMA proactively informs the PV system owner and the installer. If it is necessary to replace the inverter, SMA sends a replacement device fast and free of charge. In this way, PV system owners and installers benefit from minimized diagnosis and downtime.

SMA Smart Connected offers ease and comfort, helps guarantee investment security.



#### INSTALLATION

- The PV system owner or installer activates SMA Smart Connected within 31 days of commissioning by registering the system in the Sunny Portal.



#### MONITORING

- Proactive monitoring and analysis of the inverter through SMA.
- The PV system owner receives monthly performance reports from SMA.



#### MESSAGES

- SMA analyzes the failure and whether an inverter replacement is needed.
- Detailed pre-diagnosis by e-mail for installers and owners.



#### REPLACEMENT SERVICE

- SMA delivers a replacement inverter to the PV system owner within 1-3 days.
- The installer contacts the PV system owner and replaces the inverter.

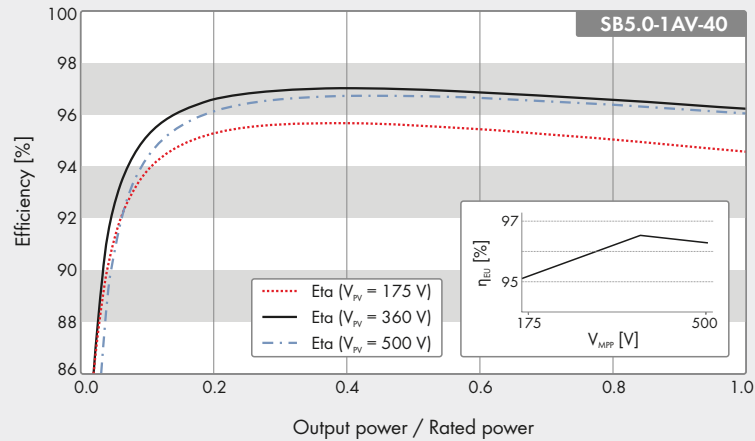


#### PERFORMANCE SERVICE

- SMA compensates PV system owners if the replacement inverter cannot be delivered within three days.

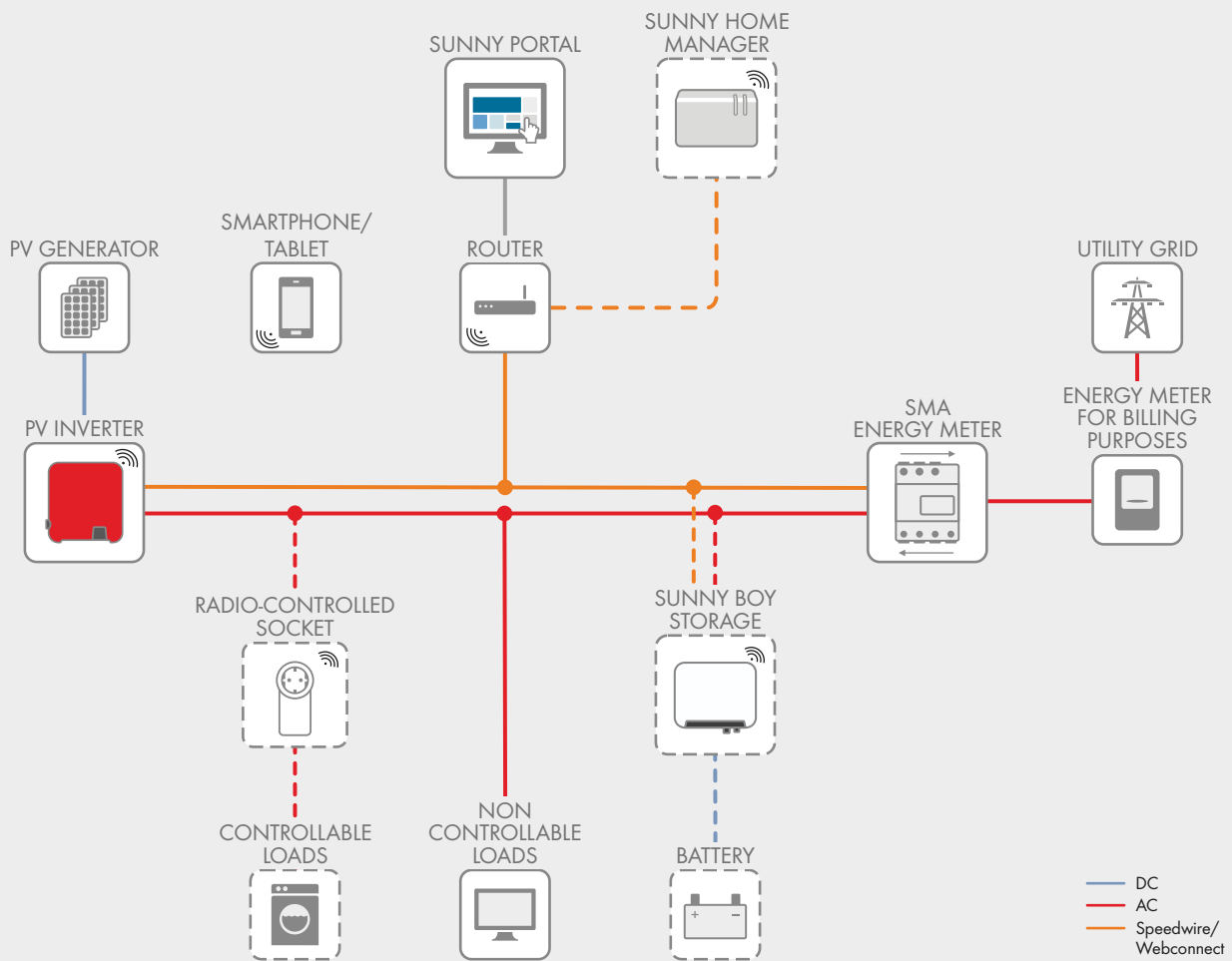
\*SMA Smart Connected initially applies for the duration of the 5-year factory warranty. After this time, this service can continue to be used via an extended warranty.

## Efficiency curve



| Technical data                                                                       | Sunny Boy 3.0                                                                                                                                                                     | Sunny Boy 3.6  | Sunny Boy 4.0      | Sunny Boy 5.0         |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------|-----------------------|
| <b>Input (DC)</b>                                                                    |                                                                                                                                                                                   |                |                    |                       |
| Max. DC power (at $\cos \varphi = 1$ )                                               | 3200 W                                                                                                                                                                            | 3880 W         | 4200 W             | 5250 W <sup>1)</sup>  |
| 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        |
| 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. input current per string input A / input B                                      | 15 A / 15 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>2)</sup>  |
| Max. apparent AC power                                                               | 3000 VA                                                                                                                                                                           | 3680 VA        | 4000 VA            | 5000 VA <sup>2)</sup> |
| 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>3)</sup> | 22 A <sup>3)</sup>    |
| 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% / 96.4%                                                                                                                                                                       | 97% / 96.5%    | 97% / 96.5%        | 97% / 96.5%           |
| <b>Protective devices</b>                                                            |                                                                                                                                                                                   |                |                    |                       |
| Input-side disconnection point                                                       | ●                                                                                                                                                                                 |                |                    |                       |
| Ground fault monitoring / grid monitoring                                            | ● / ●                                                                                                                                                                             |                |                    |                       |
| DC reverse polarity protection / AC short circuit capability / galvanically isolated | ● / ● / -                                                                                                                                                                         |                |                    |                       |
| All-pole sensitive residual-current monitoring unit                                  | ●                                                                                                                                                                                 |                |                    |                       |
| Protection class (as per IEC 62103) / overvoltage category (as per 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                                                                               | 16 kg (35.3 lb)                                                                                                                                                                   |                |                    |                       |
| Operating temperature range                                                          | -25 °C to +60 °C (-13 °F to +140 °F)                                                                                                                                              |                |                    |                       |
| Noise emission, typical                                                              | 25 dB(A)                                                                                                                                                                          |                |                    |                       |
| Self-consumption (at night)                                                          | 1.0 W                                                                                                                                                                             |                |                    |                       |
| Topology                                                                             | Transformerless                                                                                                                                                                   |                |                    |                       |
| Cooling method                                                                       | Convection                                                                                                                                                                        |                |                    |                       |
| Degree of protection (according to IEC 60529)                                        | IP65                                                                                                                                                                              |                |                    |                       |
| Climatic category (according to IEC 60721-3-4)                                       | 4K4H                                                                                                                                                                              |                |                    |                       |
| Max. permissible value for relative humidity (non-condensing)                        | 100%                                                                                                                                                                              |                |                    |                       |
| <b>Features</b>                                                                      |                                                                                                                                                                                   |                |                    |                       |
| DC connection / AC connection                                                        | SUNCLIX / AC connector                                                                                                                                                            |                |                    |                       |
| Display via Smart Phone, Tablet, Laptop                                              | ●                                                                                                                                                                                 |                |                    |                       |
| Interfaces: WLAN, Speedwire/Webconnect                                               | ● / ●                                                                                                                                                                             |                |                    |                       |
| Warranty: 5 / 10 years                                                               | ● / ○                                                                                                                                                                             |                |                    |                       |
| Certificates and approvals (more available upon request)                             | AS 4777, C10/11, CE, CEI 0-21, EN 50438, G59/3, G83/2, IEC 61727, NEN-EN50438, NRS 097-2-1, PPC, PPDS, RD1699, RD 661, SI 4777, UTE C15-712, VDE-AR-N 4105, VDE0126-1-1, VFR 2014 |                |                    |                       |
| ● Standard features ○ Optional features - Not available                              |                                                                                                                                                                                   |                |                    |                       |
| Data at nominal conditions                                                           |                                                                                                                                                                                   |                |                    |                       |
| Last revision: May 2016                                                              |                                                                                                                                                                                   |                |                    |                       |
| 1) 4825 W with VDE-AR-N 4105                                                         |                                                                                                                                                                                   |                |                    |                       |
| 2) 4600 W / 4600 VA with VDE-AR-N 4105                                               |                                                                                                                                                                                   |                |                    |                       |
| 3) AS 4777: 21.7 A                                                                   |                                                                                                                                                                                   |                |                    |                       |
| Type designation                                                                     | SB3.0-1AV-40                                                                                                                                                                      | SB3.6-1AV-40   | SB4.0-1AV-40       | SB5.0-1AV-40          |

## System principle



### Basic function

- Solar power generation
- Visualization in Sunny Portal or Sunny Places
- Integrated SMA Smart Connected service package
- Modbus as interface for third-party solutions

### With SMA Energy Meter (optional)

- Dynamic limit of grid feed-in between 0-100%
- Visualization of energy consumption

### Expansion options

Basic system expanded with Sunny Home Manager and/or storage system

- Visualization of energy consumption and weather forecasts in Sunny Portal or Sunny Places
- Automated load control
- Charging and load operation based on weather forecast