

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.

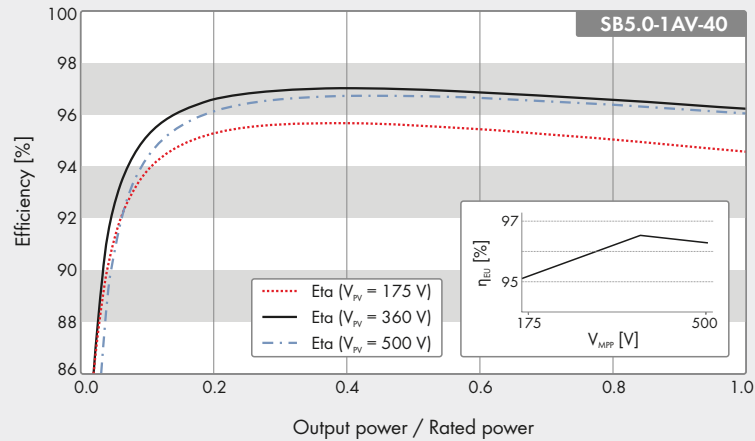


PERFORMANCE SERVICE

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

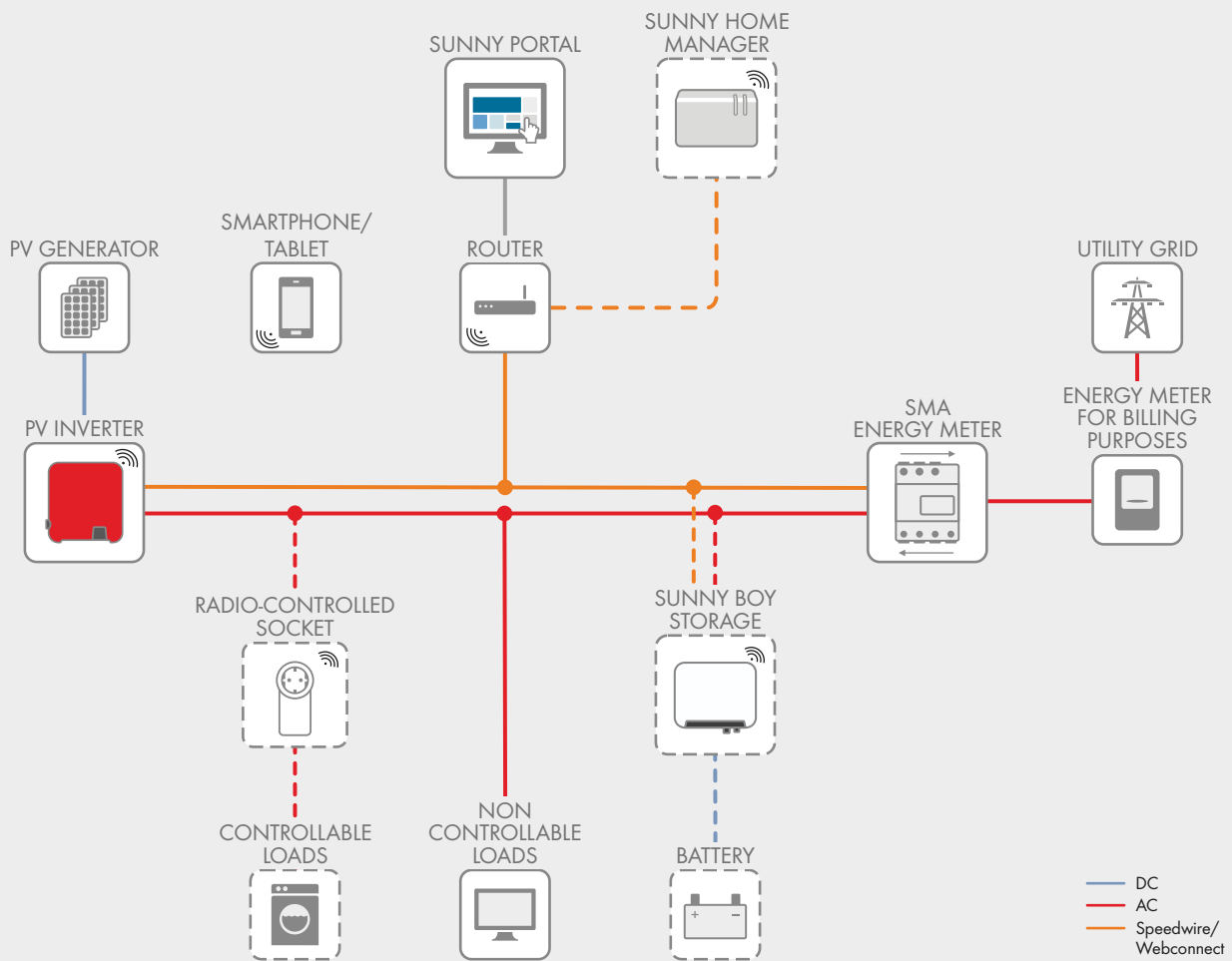
*SMA Smart Connected initially applies for the duration of the 5-year factory warranty. After this time, this service can continue to be used via an extended warranty.

Efficiency curve



Technical data	Sunny Boy 3.0	Sunny Boy 3.6	Sunny Boy 4.0	Sunny Boy 5.0
Input (DC)				
Max. DC power (at cos φ = 1)	3200 W	3880 W	4200 W	5250 W ¹⁾
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			
Output (AC)				
Rated power (at 230 V, 50 Hz)	3000 W	3680 W	4000 W	5000 W ²⁾
Max. apparent AC power	3000 VA	3680 VA	4000 VA	5000 VA ²⁾
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 ³⁾	22 A ³⁾
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 / European efficiency	97% / 96.4%	97% / 96.5%	97% / 96.5%	97% / 96.5%
Protective devices				
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			
General data				
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%			
Features				
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



SMA Factory Warranty

Only applies for the following products: Sunny Boy, Windy Boy, Windy Boy Protection Box, Sunny Mini Central, Sunny Multigate, Sunny Tripower, Windy Tripower, Sunny Beam, Sunny WebBox, Sunny Matrix, Sunny SensorBox, Power Reducer Box, PV Offset Box, Cluster Controller, Sunny Home Manager, FLX, MLX 60, SMA Inverter Manager, SMA DC-Combiner.

The statutory warranty obligation of the seller of your device is not affected by this warranty and remains fully valid for 24 months from the date of delivery.

For the above mentioned products, you receive an SMA factory warranty valid for five years from the date of purchase. For the Fuel Save Controller, you will receive a factory warranty valid for two years from the date of purchase. The SMA factory warranty covers any costs for repair or spare parts during the agreed period beginning on the date of purchase of the device, subject to the following conditions. This is not associated with a durability warranty.

Warranty Conditions

If a device becomes defective during the agreed SMA manufacturer warranty period and, unless this should be impossible or disproportionate, one of the following options will be selected at the discretion of SMA:

- device repair at SMA, or
- device repair on-site, or
- exchange for a replacement device of equivalent value with regard to model and age.

In the latter case, the remainder of the warranty entitlement will be transferred to the replacement device and your entitlement will be documented at SMA.

The term "disproportionate" as referred to above applies in particular if, as a result of the envisaged measures, SMA were to incur costs deemed unreasonable according to the following criteria:

- in view of the value that the device would have without the defect,
- taking into account the significance of the defect, and
- after consideration of alternative workaround possibilities that SMA customers could revert to without significant inconvenience.

The factory warranty includes the costs of SMA for work and material for the restoration of faultless functioning in SMA's factory or for on-site repair work by SMA service personnel. All other costs, particularly shipping costs, travel and accommodation costs of SMA personnel for on-site repairs as well as costs of the customer's own employees are not included in the factory warranty.

When devices for private use are installed by natural persons in the EU region, Australia, Chile, India, Israel, South Africa, South Korea, Croatia, New Zealand, Norway, Switzerland, Thailand and the United Arab Emirates, the factory warranty also covers shipping costs or travel and accommodation costs for SMA service personnel during on-site repairs. This does not apply to islands and overseas territories of the above mentioned states.

The replacement of the products Sunny Boy 240 and Sunny Multigate only takes place via the shipment of replacement devices. For these products, the SMA service personnel will not be available for repairs on-site.

To determine the warranty entitlement, please submit a copy of the purchasing invoice or a copy of the warranty certificate, if necessary including the receipt of the extended warranty. The type label on the device must be completely legible. Otherwise, SMA is entitled to refuse warranty services.

Report defective devices with a detailed error description and the error code to the SMA Service Line. If we agree to a replacement, we generally send an equivalent replacement device, packaged appropriately for transport, within two working days. The defective device is to be packed in this transport packaging for return transport to SMA. All warranty services are free of charge only if the course of action is agreed with SMA in advance.

Scope of the Factory Warranty

The factory warranty does not cover damage that has occurred due to any of the following reasons:

- Transport damage
- Incorrect installation or commissioning
- Failure to observe the user manual, the installation manual, or the maintenance instructions
- Modifications, changes, or attempted repairs
- Incorrect use or inappropriate operation
- Insufficient ventilation of the device
- Failure to observe the applicable safety regulations
- Force majeure (e.g., flash of lightning, overvoltage, storm, fire)

Neither does it cover cosmetic defects which do not influence the energy production.

Claims that go beyond the rights cited in the warranty conditions, in particular claims for compensation for direct or indirect damages arising from the defective device, for compensation for costs arising from disassembly and installation, or loss of profits are not covered by the manufacturer warranty, insofar SMA is not subject to statutory liability. In such cases, please contact the company that sold you the device. Possible claims in accordance with the law on product liability remain unaffected.

All claims arising from or in connection with this warranty are subject to German law. Kassel, Germany is the exclusive place of jurisdiction for all disputes arising from or in connection with this warranty.

For further information, visit us at www.SMA-Solar.com under the section "Service".