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

Sunny Boy

mit SMA Smart Connected

3.0 / 3.6 / 4.0 / 5.0 / 6.0

Higher yields for private homes
– intelligent solar power generation

SMA Smart Connected

SMA ShadeFix
STRING LEVEL OPTIMIZATION

Compakt
- One-person installation due to low weight of 17.5 kg
- Compact design means minimum space requirements

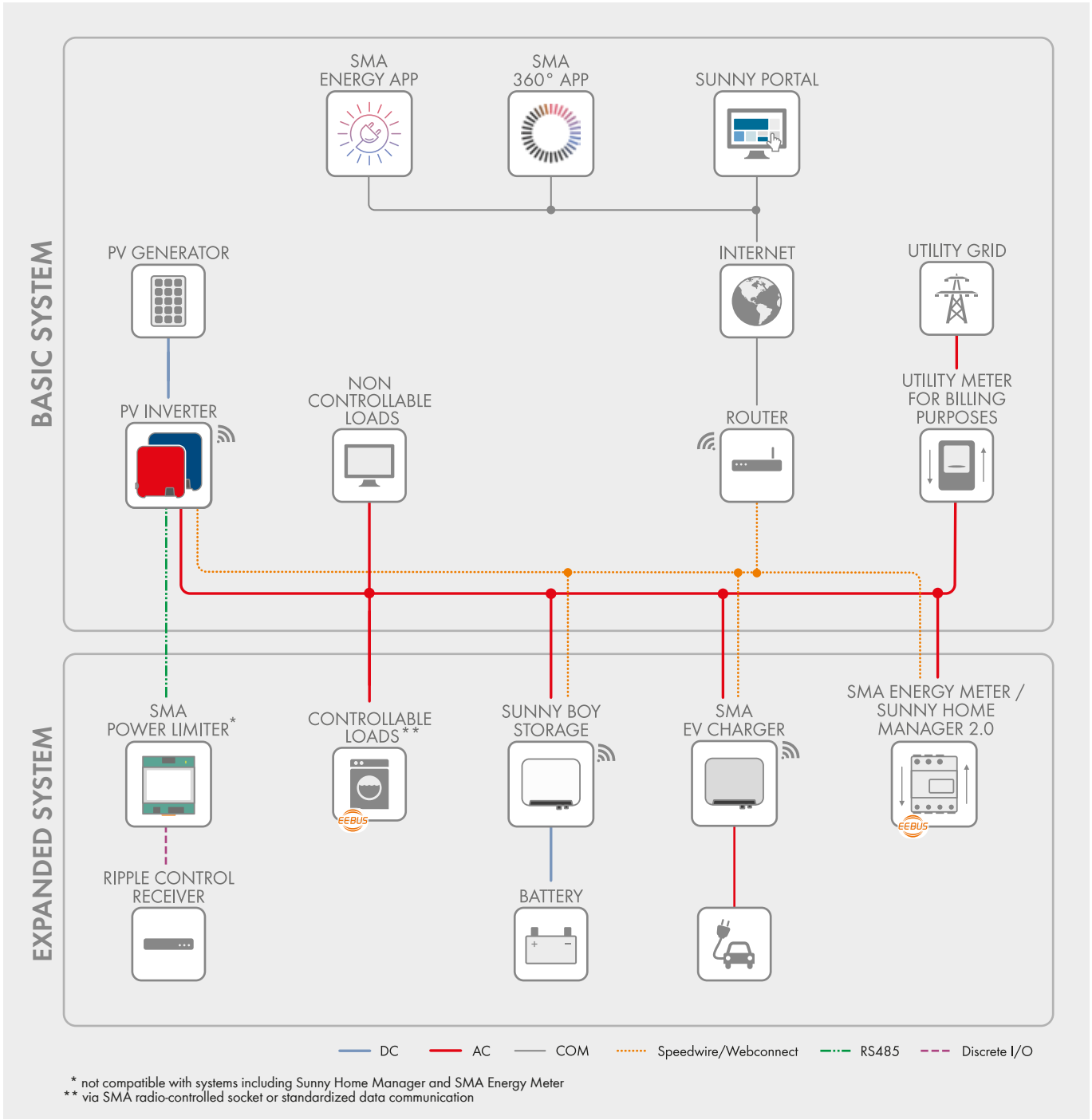
Easy to use
- 100% plug and play installation
- Free online monitoring via SMA Energy App
- Automated service thanks to SMA Smart Connected
- Warranty extension from 5 to 10 years – free of charge

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

Combinable
- Intelligent energy management and storage solutions can be added anytime
- Can be expanded with SMA Power Limiter for use of a ripple control receiver

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, SMA ShadeFix maximizes the PV system's yield. Current communication standards make the inverter future-proof, meaning intelligent energy management solutions as well as SMA storage solutions can be flexibly added anytime.



BASIC SYSTEM functions

- Easy commissioning via integrated WLAN and Speedwire interface
- Maximum transparency thanks to visualization in the 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
- Easy integration of ripple control receivers via SMA Power Limiter

With SMA Energy Meter

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

Technical data	Sunny Boy 3.0	Sunny Boy 3.6	Sunny Boy 4.0	Sunny Boy 5.0	Sunny Boy 6.0
Input (DC)					
Max. generator power	5500 Wp	5500 Wp	7500 Wp	7500 Wp	9000 Wp
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. usable input current input A / input B	15 A / 15 A				
Max. DC short-circuit current input A / input B	20 A / 20 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[1)]	6000 W
Rated / Max. apparent power	3000 VA / 3000 VA	3680 VA / 3680 VA	4000 VA / 4000 VA	5000 VA[1)]/5000 VA[1)]	6000 VA / 6000 VA
Rated voltage / range	220 V, 230 V, 240 V / 180 V to 280 V				
Power frequency / range	50 Hz, 60 Hz / −5 Hz to +5 Hz				
Rated power frequency / rated grid voltage	50 Hz / 230 V				
Rated / Max. output current	13.1 A / 13.7 A	16 A / 16 A	17.4 A / 18.2 A	22 A / 22.8 A	26.1 A / 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				
Efficiency					
Max. efficiency / European Efficiency	97.0% / 96.4%	97.0% / 96.5%	97.0% / 96.5%	97.0% / 96.5%	97.0 % / 96.6 %
Protective devices					
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				
Arc-fault circuit interrupter (AFCI) / I-V and P-V diagnostic function	● / ●				
General data					
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%				
Equipment					
DC connection / AC connection	SUNCLIX / AC connector				
Display via smartphone, tablet, laptop	●				
Interfaces: WLAN / Ethernet / RS485	▲ / ● / ●				
Communication protocols	Modbus (SMA, Sunspec), Webconnect, SMA Data				
Shade management: integrated SMA ShadeFix	●				
Warranty: 5 / 10 / 15 years	● / ●[2)] / ○				
Certificates and approvals (more available upon request)	AS 4777.2, C10/11, CE, CEI 0-21, Dansk Energi DK1/2, DEWA, DIN EN 62109 / IEC 62109, EN 50438, EN 50549-1, G98/1, G99/1, IEC 61727, IEC 62116, IE-EN50438, NBR16149, NEN-EN50438, NRS 097-2-1, NT_Ley20.571, ÖVE/ÖNORM E 8001-4-712 & TOR Erzeuger Typ A, PPC, PPDS, RD1699, RfG compliant, SI4777, UTE C15-712, VDE0126-1-1, VDE-AR-N 4105, VFR 2014				
Country availability of SMA Smart Connected	AU, AT, BE, CH, DE, ES, FR, IT, LU, NL, UK				
Type designation	SB3.0-1AV-41	SB3.6-1AV-41	SB4.0-1AV-41	SB5.0-1AV-41	SB6.0-1AV-41

● Standard equipment ○ Optional – Not available ▲ Depending on availability Data at nominal conditions Status: 10/2023

1) 4600 W / 4600 VA according to VDE-AR-N 4105

2) 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 3.0 / 3.6 / 4.0 / 5.0 / 6.0

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"

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