/ HS-BM-3.28-10 / HS-BU-10

SMA Home Storage

Ease of installation. Long lifetime. Seamless integration.

Future-proof electricity storage system

- Developed for intensive use
- Ready for future, like dynamic tariffs and virtual power plants (VPP)
- Integrated black start function for back-up supply (when combined with the SMA hybrid inverter)
- 8000 life cycles and 10 years of warranty[1)]

Easy installation, fast commissioning

- Plug and play solution, including automatic commissioning
- Preassembled cables for an easy installation
- Expandable capacity possible within 2 years

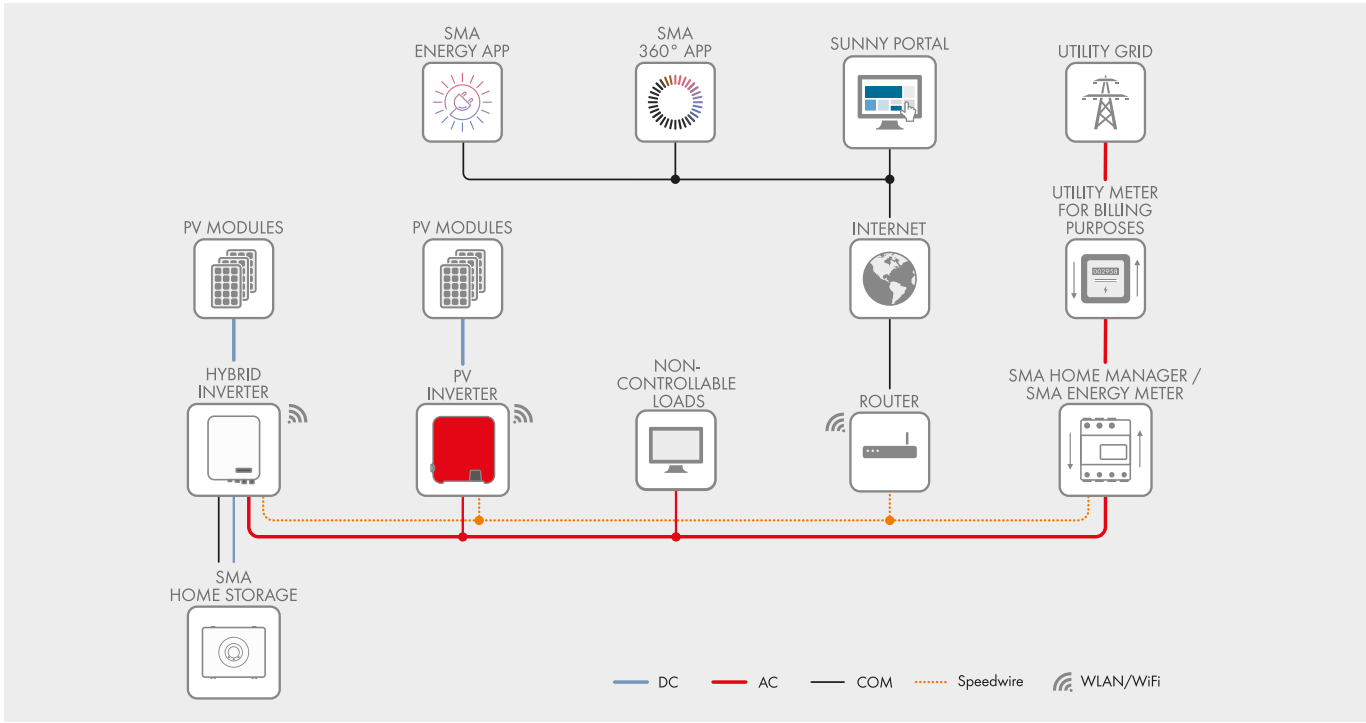
Unmatched flexibility

- Compatible with SMA's hybrid inverters
- Slim, stackable design that can be scaled from 3.2 kWh to 16.4 kW
- Floor, wall or back-to-back mounting
- Outdoor installation possible (Protection class IP65)

The SMA Home Storage Solution allows homeowners to unlock the full potential of sustainable energy. Integrating the SMA Home Storage battery makes the modular solution complete: everything from a single source. It perfectly complements SMA's hybrid inverters enabling energy solutions of today and tomorrow.

Whether during times of low solar irradiation or the highs of midday – the SMA Home Storage can store solar power and make it available as needed.
It offers flexible scalability to be adapted to individual needs and has an especially long lifetime of around 8000 charging cycles. With the SMA Home Storage, homeowners are making a conscious choice for quality and additional security with the 10-year warranty[1)].

1) Device registration via the SMA product registration at my.sma-service.com required within 30 days after initial commissioning. The conditions of the SMA limited factory warranty apply. You can find additional information at SMA-solar.com.



Technical data	SMA Home Storage 3.2	SMA Home Storage 6.5	SMA Home Storage 9.8	SMA Home Storage 13.1	SMA Home Storage 16.4
Electrical					
Usable energy capacity[1]	3.28 kWh	6.56 kWh	9.84 kWh	13.12 kWh	16.40 kWh
Nominal voltage	96 V	192 V	288 V	384 V	480 V
Operating voltage range	90 V to 108 V	180 V to 216 V	270 V to 324 V	360 V to 432 V	450 V to 540 V
Max. charging / discharging current	36 A				
General data					
Dimensions[2] (W/H/D)	610 × 483 × 214.6 mm	610 × 969 × 214.6 mm	610 × 1455 × 214.6 mm	2 × (610 × 969 × 214.6) mm	(610 × 1455 × 214.6 mm) and (610 × 969 × 214.6 mm)
Weight	38 kg	76 kg	114 kg	152 kg	190 kg
Operating temperature Charging / discharging	-10°C to 50°C / 0°C to 50°C				
Self-consumption (at night) per module	2 W				
Degree of protection (according to IEC 60529)	IP 65				
Max. permissible value for relative humidity (non-condensing)	5% to 95%				
Cell technology	Lithium Iron Phosphate (LiFePO4)				
Efficiency					
Battery efficiency	94.5%				
Protective devices					
Input-side disconnection point	●				
DC reverse polarity protection	●				
Overvoltage category battery / inverter	II / II				
Equipment					
DC connection	MC4				
Interface / Communication	RJ45				
Communication protocols	SMA battery interface				
Warranty: 2/10 years	● / ●[3]				
Certificates and permits (more available upon request)	CE, UN38.3, IEC62619, IEC 62477, VDE2510-50				
Compatible SMA products	STP-SE (SMA Home Storage 6.5 to 16.4), SB-SE (SMA Home Storage 3.2 to 13.1)				
Accessories	Base unit for floor mounting (HS-BU-10), communication cable to STP-SE (HS-COM-CBL-3-10)				
Type designation	HS-BM-3.28-10	2 x HS-BM-3.28-10	3 x HS-BM-3.28-10	4 x HS-BM-3.28-10	5 x HS-BM-3.28-10

● Standard equipment ○ Optional – Not available Data at nominal conditions Last revised: 1/2024

1) Under specific test conditions (100% DOD, 0.2 C charge and discharge at +25 °C).

2) Dimensions for wall mounting. Dimensions with optional base unit can be found in the product manual.

3) Device registration via the SMA product registration at my.sma-service.com required within 30 days after initial commissioning. The conditions of the SMA limited factory warranty apply. You can find additional information at SMA-solar.com.

/ SBSE3.6-50 / SBSE4.0-50 / SBSE5.0-50 / SBSE6.0-50

Sunny Boy Smart Energy

3.6 / 4.0 / 5.0 / 6.0

Higher yields. Faster charging.
Easy installation. Full control.

powered by ennexOS

SMA Smart Connected

SMA ArcFix

SMA ShadeFix
STRING LEVEL OPTIMIZATION

Maximum energy yields
- Rapid charging and discharging of connected batteries
- PV system oversizing for higher energy yields
- Integrated yield optimization with SMA ShadeFix

Easy installation, fast commissioning
- Connection via standard cables
- SMA Easy Lock for effortlessly opening and closing the cover
- Step-by-step commissioning via the SMA 360° app (depending on software version)

Unmatched flexibility
- Three MPP trackers for flexible roof layouts
- Low startup voltage
- Integrated secure power supply
- Optional battery-backup function[1)]

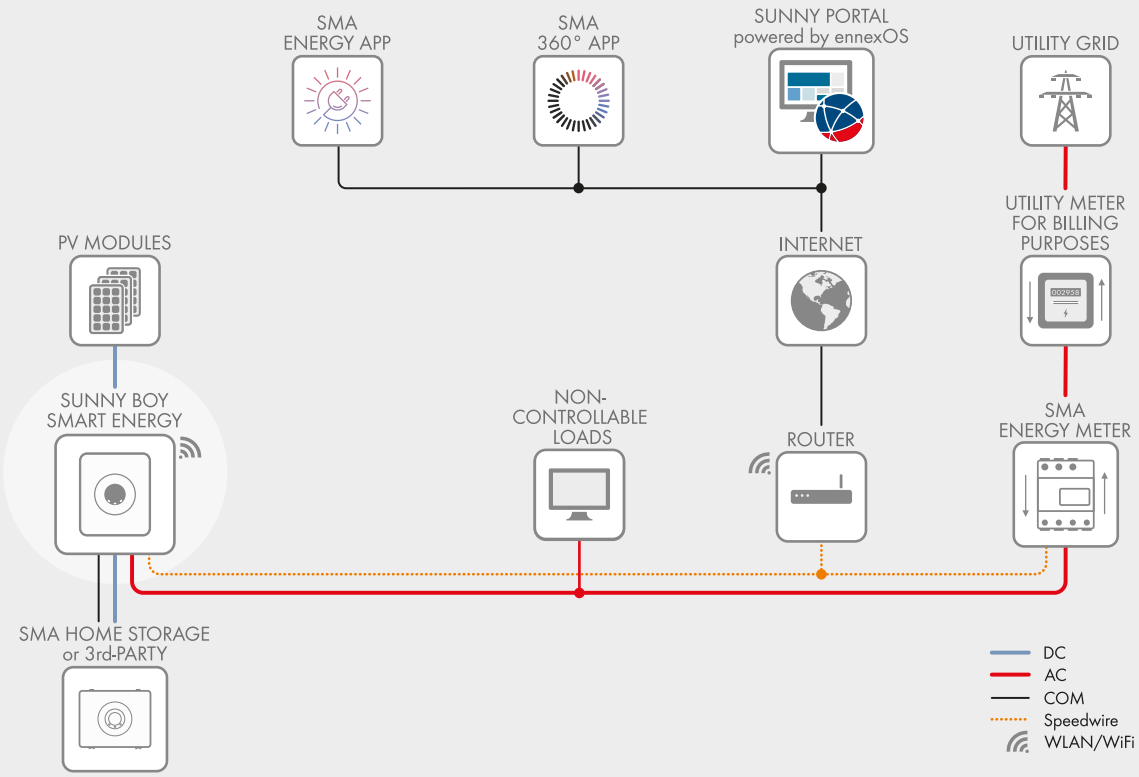
Improved storage options
- Compatible with SMA Home Storage battery
- Compatible with high-voltage batteries from major manufacturers (depending on software version)

The SMA Sunny Boy Smart Energy single-phase hybrid inverter is the two-in-one solution for the generation and flexible use of solar power at home.

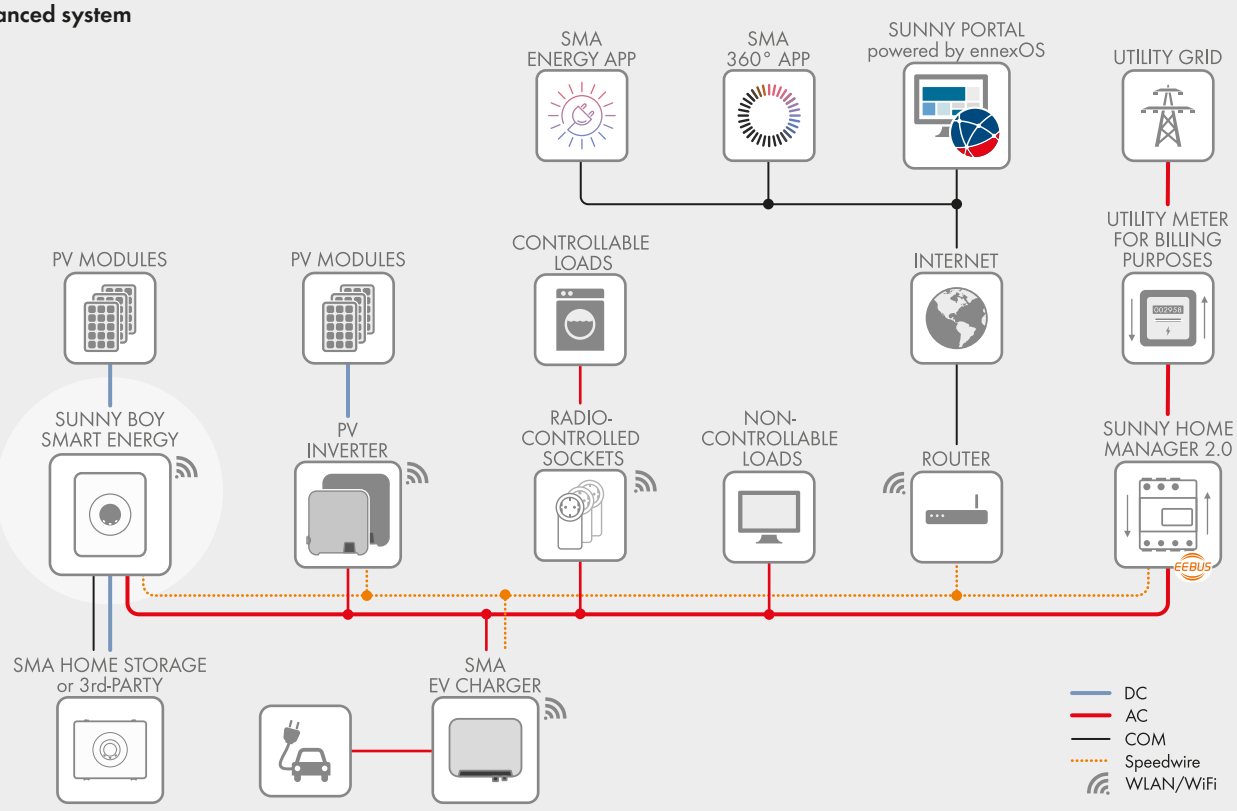
The Sunny Boy Smart Energy is the ideal gateway to an all-round energy transition in the home. As a PV and battery inverter in one, it ensures a reliable and sustainable supply of energy. Thanks to the integrated secure power supply function and an optional battery backup function[1)], it will continue to run even if the utility grid fails.
Three MPP trackers allow varying roof orientations to be incorporated into plans for solar power production. The hybrid inverter offers very fast charging for connected batteries and makes the most of days with few hours of sunshine.
Heat pumps, charging solutions for electric vehicles and smart energy management can be flexibly integrated into the energy system at any time. This means greater independence from rising energy costs and conventional energy supplies. With the Sunny Boy Smart Energy, users can expect the high standard of quality that comes with a product made in Germany.

1) Available with an additional hardware component at a later date

Basic system



Advanced system



Enjoy smart energy management with the Sunny Home Manager 2.0

For optimized self-consumption and even greater independence, the Sunny Home Manager 2.0 links the PV system with electrical appliances and, optionally, a battery storage system with a comprehensive energy system. And thanks to the power of AI, it can even manage energy flows in the home automatically if the user so desires.

Technical data	Sunny Boy Smart Energy 3.6	Sunny Boy Smart Energy 4.0	Sunny Boy Smart Energy 5.0	Sunny Boy Smart Energy 6.0
Input PV (DC)				
Max. PV array power	7200 Wp	8000 Wp	10000 Wp	12000 Wp
Max. input voltage	600 V			
Min. input voltage	60 V			
MPP voltage range	60 V to 480 V			
Startup input voltage	66 V			
Max. usable input current input A / B / C	15 A			
Max. DC short-circuit current input A / B / C	up to 30 A[6]			
Number of independent MPP inputs / inputs per MPP	3 / 1			
Connection of MPP inputs in parallel possible	A and B[4]			
Input battery (DC)				
Battery type	Lithium-Ion batteries[1]			
Voltage range	90 V to 500 V			
Max. charging current / max. discharging current	30 A / 30 A			
Number of independent battery inputs	1			
Max. charging power	10000 W			
Max. discharging power	3789 W	4211 W	5263 W	6316 W
Output (AC)				
Rated power (at 230 V, 50 Hz)	3600 W	4000 W	5000 W [2]	6000 W [2]
Max. apparent AC power (at 230 V, 50 Hz)	3600 VA	4000 VA	5000 VA [2]	6000 VA [2]
Rated AC voltage	230 V / 240 V			
AC voltage range	184 V to 264 V			
AC grid frequency / range	50 Hz / 60 Hz / 44 Hz to 66 Hz			
Rated / Max. output current	16 A / 16 A	17.4 A / 20 A	21.7 A / 25 A	26.0 A / 30 A
Power factor at rated power / adjustable displacement power factor	1 / 0.8 overexcited to 0.8 underexcited			
Efficiency				
Max. efficiency	98.1 %			
SPS Output (AC backup) during off-grid mode				
Rated power (at 230 V)	3680 W			
Max. apparent AC power (at 230 V, 50 Hz)	3680 VA			
Nominal AC voltage	230 V / 240 V			
AC frequency	50 Hz / 60 Hz			
Switching mode	Manual			
Backup output[3] (AC backup) during off-grid mode, single-phase				
Rated power (at 230 V, 50 Hz)	7300 W			
Max. apparent AC power (at 230 V, 50 Hz)	7300 VA			
Output power / Output apparent power < 100 ms	11040 W / 11040 VA			
Output power / Output apparent power < 30 s	9200 W / 9200 VA			
Nominal AC voltage	230 V / 240 V			
AC frequency	50 Hz / 60 Hz			
Switching mode	automatic			
Protective devices				
Input-side disconnection point	●			
Arc-fault circuit interrupter (AFCI)	●			
Ground fault monitoring / grid monitoring	● / ●			
DC reverse polarity protection / AC short-circuit current capability	● / ●			
All-pole-sensitive residual-current monitoring unit	●			
Protection class	I			
Overvoltage category grid / battery / PV	III / II / II			
DC Type II SPD with monitoring (external, 3rd party)	○			
General data				
Dimensions (W/H/D)	500 mm / 586 mm / 236 mm (19.7 / 23.1 / 9.3 in)			
Weight	17.5 kg (38.6 lb)			
Operating temperature range	-25°C to +60°C (–13°F to +140°F) with derating			
Noise emission, max.	35 dB(A)			
Self-consumption (at night)	6 W			
Topology / cooling method	transformerless / natural convection			
Degree of protection (as per IEC 60529) / climate category (as per IEC 60721-3-4)	IP65/4K26			
Max. permissible value for relative humidity (non-condensing)	100 %			
Equipment				
PV connection / BAT connection	Lever clamp / Push in clamp			
Display via smartphone, tablet, laptop	●			
Communication protocols	Modbus (SMA, Sunspec), Speedwire/Webconnect, SMA Battery Interface, MODBUS RTU			
Interfaces: WLAN / Ethernet / BAT-CAN / RS-485	● / ● / ● / ●			
Ethernet ports	2			
Number of digital outputs	1 (SG Ready (Multifunction relay, 30 Vdc /1 A)[4])			
Shade management: SMA ShadeFix (integrated)	●			
Warranty: 5/10/15/20 years	● / ●[5] / ○ / ○			
Planned certificates and permits (more available upon request)	AS4777-2; C10/11; CEI0-21; EN50549-1; IEC 62109-1 / IEC 62109-2; TED749; VDE-AR-N4105			
Country availability of SMA Smart Connected	BE, DE, ES, LU, NL, IT			
Type designation	SBSE3.6-50	SBSE4.0-50	SBSE5.0-50	SBSE6.0-50

● Standard features ○ Optional Information refers to nominal conditions Status as of: 02/2024 1) See "List of Approved Batteries" at www.SMA-Solar.com
2) 4600 W / 4600 VA according to VDE-AR-N 4105 3) Available with a later hardware release 4) Available with a later firmware release 5) Device registration within 30 days via SMA product registration at my.sma-service.com. The conditions of the SMA limited factory warranty apply. You can find additional information at SMA-solar.com. 6) the sum at all inputs must not exceed 60 A

Sunny Boy Smart Energy

SMA ShadeFix – Intelligent energy yield optimization

Established product features and integrated software solutions will provide yield optimization throughout the system's entire service life. That applies 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 additional safety by detecting errors at an early stage and automatically reporting them to the installer.

SMA ArcFix – Effectively preventing electric arcs

The arc-fault circuit interrupter (AFCI) effectively detects electric arcs in the PV system and the inverter stops feed-in operation before a fire can develop. SMA was one of the pioneers introducing AFCI's in the U.S. and has kept steadily improving this solution over the last decade. We will be equipping all our string inverters worldwide with our AFCI solution SMA ArcFix in the future. In this way, we will consistently raise the already high safety standard of PV systems yet further.

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 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."

Innovative

- Energy manager with integrated measuring device
- Consumption analysis of individual loads
- Optimized battery charging in SMA storage systems

Easy to Use

- Quick plug-and-play installation
- Overview of all relevant appliances, PV generation and battery systems
- Use energy more efficiently and reduce electricity costs

Transparent

- Energy balance and load data shown in interactive diagrams
- Integrated weather and PV forecast data
- PV system monitoring via Sunny Portal

Flexible

- Appliance connection via standard protocols and switchable devices
- For compatible devices, such as heat pumps, electric vehicles and other household appliances, go to www.sma-solar.com

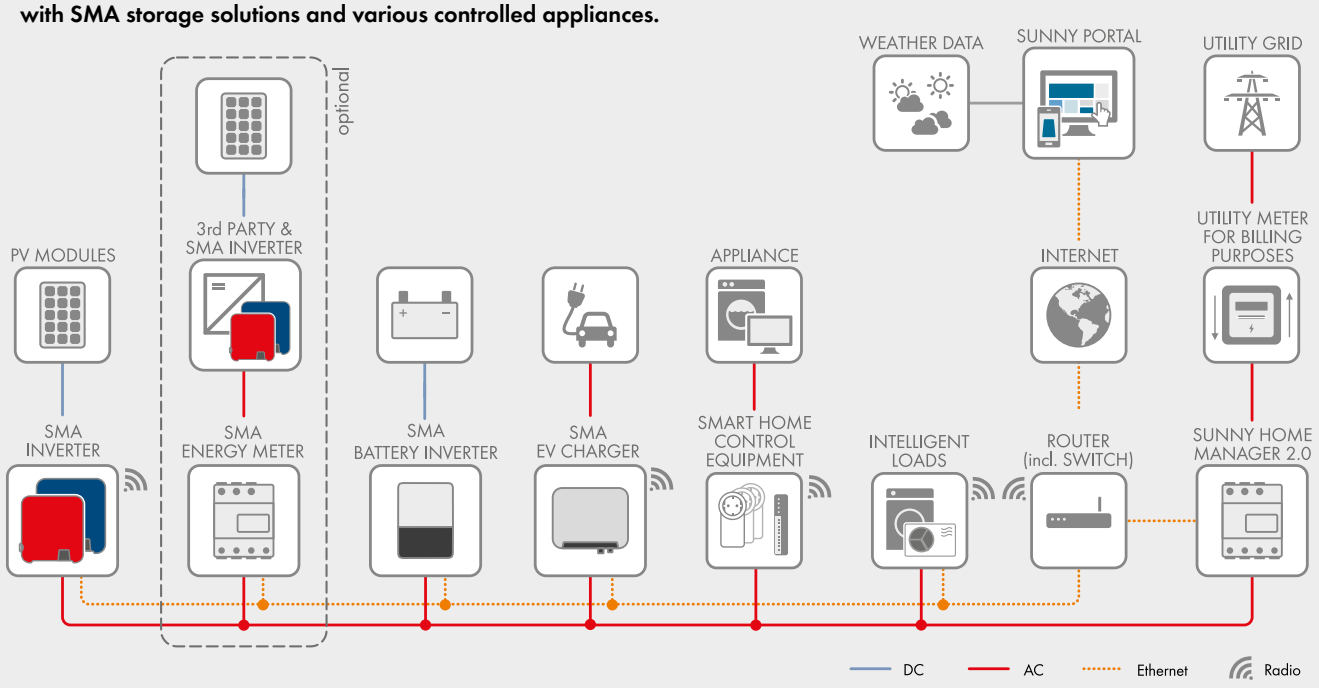
SUNNY HOME MANAGER 2.0

The control center for smart energy management

The Sunny Home Manager 2.0 is SMA's intelligent energy manager and enables the most efficient use of solar energy in the home. It optimizes PV self-consumption and significantly reduces electricity costs. To do this, it measures the power of PV generation, purchased electricity as well as grid feed-in, and gives an overview of all relevant energy flows in the household. By means of local PV generation forecasts and the measured household consumption profile, the self-learning device prompts the user with energy-related action recommendations. Operation of the controlled appliances is coordinated in a way to optimize the use of self-generated solar energy.

The path to intelligent energy management is quite easy. Simply install the Sunny Home Manager 2.0 at the grid connection point, connect it to the internet router using an Ethernet cable, then register the PV system in Sunny Portal free of charge and join more than 60,000 systems already installed worldwide in benefiting from greater energy efficiency.

An example of intelligent energy management: PV generation with SMA storage solutions and various controlled appliances.



Technical Data	Sunny Home Manager 2.0
Energy Manager	
Connection to the local router	via Ethernet cable (10/100 Mbit/s, RJ45 plug)
Connection of SMA PV inverters and battery systems	Ethernet or WLAN via local router
Connection of appliances for energy management	a. Direct data connection (EEBUS, SEMP) b. Indirect data connection (compatible switchable devices)
Integrated Measuring Device	
Measurement accuracy	≤1 %
Measuring cycle	200 ms, 600 ms or 1000 ms
Max. number of devices on the system (excluding the SMA Energy Meter)	
Total number of devices in the system	up to 24
of which devices as appliances in active energy management	up to 12
Inputs (voltage and current)	
Nominal voltage	110 V / 230 V/400 V
Frequency	50 Hz / 60 Hz
Nominal current/limiting current per line conductor	5 A/63 A (>63 A can be covered via external current transformers)
Connection cross-section	10 mm² to 16 mm² (for 63 A application)
Torque for screw terminals	2.0 Nm
Ambient Conditions in Operation	
Ambient temperature	-25°C to +40°C
Storage temperature range	-25°C to +70°C
Protection class (according to IEC 62103)	II
Degree of protection (according to IEC 60529)	IP20
Max. permissible value for relative humidity (non-condensing)	5% to 90%
Operation altitude range	0 m to 2000 m
General Data	
Dimensions (W/H/D)	70 mm/88 mm/65 mm
Top hat-rail width units	4
Weight	0.3 kg
Mounting location	Switch or meter cabinet
Mounting type	Top-hat rail mounting
Status display	3 x LED
Self-consumption	< 3 W
Features	
Operation and visualization	via Sunny Portal
Update function for the Sunny Home Manager and the connected SMA devices	automatic
Warranty	2 years
Certificates and approvals	www.SMA-Solar.com
Accessories	
SMA Energy Meter as complement to integrated measuring device	Precise three-phase measuring, connection via Ethernet in the local network.
Last updated: 05/2021	
Type designation	HM-20