



SMA ENERGY SYSTEM HOME

# My Home. My Energy. Our Climate.

Save on your energy costs and shape the energy transition with solar power.



Generate solar power for optimal consumption



Store solar power and use it flexibly



Manage and distribute solar power



Refuel with solar power



Heat with solar power



Gain independence from the grid with solar power



Get your electricity from 100% renewable sources



# Your SMA Energy System Home

The sun delivers valuable energy to your home every single day – completely free of charge. A PV rooftop system allows you to generate electricity for your home, save up to 80% on your energy costs and contribute to the energy transition.



**One system.  
Everything from a single source.**

**SMA Energy System Home** is the perfect combination of high-quality equipment, smart software and exceptional service. Its modular design means that getting started is easy and your system can be upgraded to suit your budget and requirements anytime, with no hassle.



Generate solar power  
for optimal consumption

— 04



Store solar power  
and use it flexibly

— 06



Manage and distribute  
solar power

— 08



Refuel with  
solar power

— 10



Heat with  
solar power

— 12



Gain independence from  
the grid with solar power

— 14



Get your electricity from  
100% renewable sources

— 16



# Sun from the rooftop for your home.

**Generate your own solar power and consume it efficiently.**

SMA Energy System Home helps you cut your energy costs permanently, starting now. Harness the unlimited power of the sun to generate cost-effective and sustainable solar power. No more dependency on energy providers and no more worries about rising electricity prices.

## How to produce your own electricity.

SMA Energy System Home allows you to generate your own green electricity with your very own rooftop PV system. The electricity you do not use yourself is automatically fed into the utility grid and you will receive a feed-in tariff for it. Alternatively, you can store the electricity in a battery for later use. On the following pages you will learn how a storage system can make you even more independent of utility companies.

Good to know: The SMA Energy System Home already meets all technical requirements of the energy market of the future. SMA makes selling your solar power easy.

## SMA Energy Systems benefits

- Quick and easy installation, can be flexibly expanded.
- Compact design means minimum space requirements.
- Maximum yields even with shading.
- Free monitoring with the SMA Energy app.

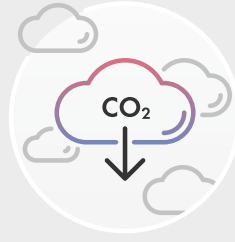
## Benefits



Up to 30% lower energy costs.



Protection against rising energy prices.



Your contribution to climate protection.



Additional income from grid feed-in.

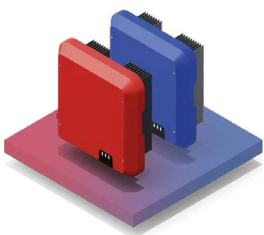
SMA inverter

## The heart of your personal PV power plant.

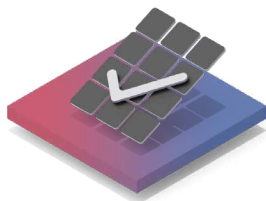
An SMA inverter from the Sunny Boy or Sunny Tripower families is the core of your SMA Energy System Home. It converts the direct current generated by the PV modules on the roof into standard alternating current for domestic use. Thanks to ShadeFix, your SMA inverter delivers maximum yields even if some of your solar panels are shaded.



## System components



**Sunny Boy or Sunny Tripower:**  
An SMA inverter that converts solar power (direct current) into usable alternating current.



**SMA ShadeFix:**  
A software-based shade management system integrated into the inverter that is used in systems with light to medium shading.



**SMA Monitoring:**  
The SMA Sunny Portal and SMA Energy app monitoring tools allow you to easily manage and clearly visualize your energy system.



**SMA Smart Connected:**  
A feature that automatically monitors your inverter and, if necessary, initiates immediate troubleshooting.



# Keep the solar power flowing. Even when there's no sun.

## Store solar power and use it flexibly.

Sometimes your PV system generates more power than you need. A battery-storage system allows you to store solar energy for later use.

## Solar energy at your disposal 24/7.

Solar power is not always available when you need a lot of electricity, for example, in the evening or when you want to charge your electric vehicle. In these situations you need to buy expensive grid power.

The smart alternative: store your valuable resource in a battery-storage system until you need it. This way, you will use even more of your own solar power with your SMA Energy System Home. It's doubly efficient, as feed-in tariffs typically do not offset grid power purchases.

### SMA Energy Systems benefits

- Capacity to flexibly expand and connect up to three high-voltage batteries.
- Easy commissioning via integrated web interface.
- Suitable for outdoor installation.
- Ten-year warranty.

## Benefits



Up to 45% lower energy costs.\*



Benefit from solar power while you're sleeping.



Optimize your solar power consumption by storing what you don't need right now.



Protection against rising energy prices.

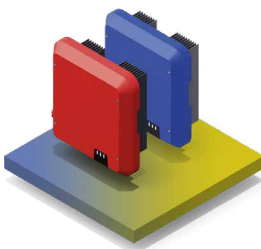
SMA Sunny Boy Storage battery inverter

## Delivers solar power even when the sun is not shining.

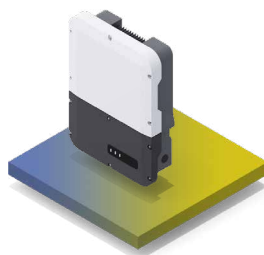
The SMA Sunny Boy Storage battery inverter allows you to store your solar power in one or even multiple batteries. The stored power is available when the sun does not shine – you can even use it when the power grid fails. Your Sunny Boy Storage will supply the connected appliances with electricity from the battery. And the optional backup function even enables it to take over the electricity supply for the entire household.



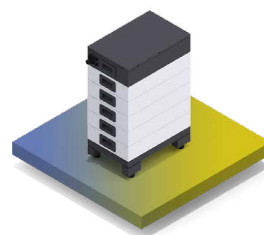
## System components



**Sunny Boy or Sunny Tripower:**  
An SMA inverter that converts solar power (direct current) into usable alternating current.



**Battery inverter:**  
Sunny Boy Storage ensures that your solar power is stored in the battery and is available again as and when needed.



**Battery:**  
Efficiently stores the solar power and makes it available again as and when needed (batteries from external partners, for example, BYD or LG Chem).



**SMA Monitoring:**  
The SMA Sunny Portal and SMA Energy app monitoring tools allow you to easily manage and clearly visualize your energy system.

\* When you implement the first two applications.



## Manage your power intelligently.

### Let your appliances go solar.

Supply your home appliances with solar power, charge your electric vehicle with climate-friendly power, and manage your heating cost-efficiently. Your SMA Energy System Home does all of it fully automated. Intelligent energy management allows you to use your valuable solar energy with maximum efficiency.

### The smarter way to manage your household power supply.

Sunny Home Manager 2.0 combines all energy flows in your home to create an intelligent system. If needed, it can even control them automatically to help you get the most out of your solar power. The energy manager produces daily yield forecasts using satellite weather forecasts and your own consumption analysis. Based on this information, the Sunny Home Manager 2.0 can predict when a lot of solar power will be available and when it is the perfect time to start the washing machine.

Home appliances communicate directly with the Sunny Home Manager via compatible interfaces or can be integrated into the energy system with compatible radio-controlled sockets.

### SMA Energy Systems benefits

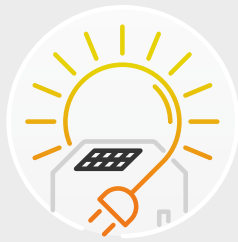
- Optimum usage of self-generated solar power in the household.
- Home appliances can be easily integrated using radio-controlled sockets and controlled by the Sunny Home Manager 2.0.
- Home appliances can be integrated directly into the system and controlled via the EEBUS interface.



## Benefits



Up to 60% lower energy costs.\*



Optimize your solar power consumption.



Energy management saves money without sacrificing comfort or convenience.



Power generators and appliances can be combined in an integrated energy system.

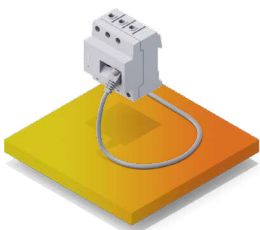
Sunny Home Manager 2.0

## The SMA Energy System Home control center.

Connected to all key household appliances, a battery-storage system, an electric vehicle and the PV system, the Sunny Home Manager always knows how much energy is available and where it is needed. With the help of satellite weather data and PV performance prediction (from Sunny Portal), the energy manager is able to adapt its forecast to local conditions (for example, shading). Whenever possible, your appliances will run during the day, when they can use your solar power, instead of at night, when they would need expensive grid power.



## System components



### Energy manager:

The Sunny Home Manager 2.0 is the intelligent control center of your SMA Energy System Home. It automatically monitors and controls all energy flows in the household so that you can make the most of your solar power.



### SMA Monitoring:

The Sunny Portal monitoring portal or the new Energy app allow you to monitor SMA energy flows as well as visualize and control the performance of your SMA Energy System Home.



### Intelligent home appliances:

can be integrated directly into the system and controlled via an EEBUS interface (for example, BSH home appliances).



### Compatible radio-controlled sockets:

allow you to integrate additional appliances into the system and switch them on and off intelligently as required (for example, appliances from Edimax and AVW FRITZ!Box).

Basic component    Partner component

\* When you implement the first three applications.



Compatibility list for appliances



## Driven by the sun.

### Refuel with solar power.

With the SMA Energy System Home, e-mobility makes sense both environmentally and economically. It ensures that your electric vehicle will prioritize charging whenever your PV system is producing enough power.

### A perfect match: PV system and e-mobility.

Your SMA Energy System Home knows exactly when you have enough solar power available to charge your car. It even knows when you can charge it for free. This way, you automatically use more of your own power and need to buy less from the grid. Every kilowatt of solar power in your electric vehicle's battery is turned into range for your car – it couldn't be easier, cleaner or more cost-efficient.

### SMA Energy Systems benefits

- Integrated SMA Smart Connected service automatically detects faults and initiates rapid troubleshooting.
- Integrated blackout protection prevents the home connection from being overloaded.
- The charging process can be controlled conveniently via smartphone.
- Extra-fast charging thanks to the boost function.

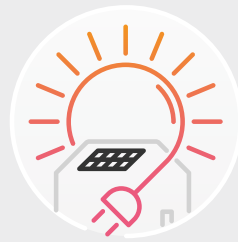
## Benefits



Up to 70% lower energy costs.\*



Climate- and resource-friendly mobility – without fossil fuels.



Use more of your own solar power with smart energy management.



All home appliances are combined in a single system.

## SMA EV Charger

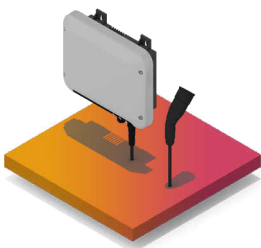
### Fast, green and cost-efficient charging.

Combined with the SMA Sunny Home Manager 2.0, the SMA EV Charger automatically prioritizes solar power for charging your electric vehicles. And when time is of the essence, it charges your car extra-fast. Integrated protection against overloading the home connection means that you can always charge your car at the maximum charging speed. Not only is this reliable, but it also saves you time and money.

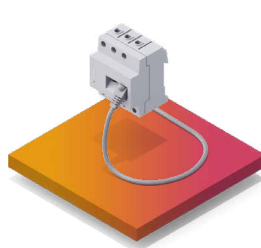
With the brand new Energy app you can easily control the charging process of your electric vehicle.



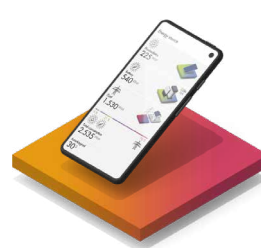
## System components



**Charging station:**  
The SMA EV Charger intelligently and sustainably prioritizes charging your electric vehicle with self-generated solar power – and especially quickly if you're in a hurry.



**Energy manager:**  
A 360° energy manager, the Sunny Home Manager 2.0 also manages your e-mobility.



**Charging via the app:**  
With the SMA Energy app, you can keep an overview of all the relevant information about your system and control the charging process with the SMA EV Charger via your smartphone.



**SMA Smart Connected:**  
A feature that automatically monitors your EV Charger and, if necessary, initiates immediate troubleshooting, ensuring that you stay mobile.

\* When you implement the first four applications.



## Zero-cost heat.

### Heat with solar power.

With SMA Energy System Home, you can use your self-generated solar power for heating and hot water. You'll save on your utility bill and help protect our planet.

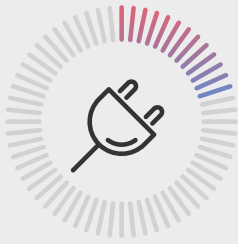
### Heat with solar power – day and night.

When you integrate your heating into the SMA Energy System Home, you convert solar power into hot water for heating, taking a shower or bath, or doing the dishes. You'll use more of your own, self-generated power, reduce your heating bill, and protect the environment.

#### SMA Energy Systems benefits

- Sustainable heating and immediate cost reduction.
- Numerous compatible devices from renowned manufacturers can be integrated into the heating system.

## Benefits



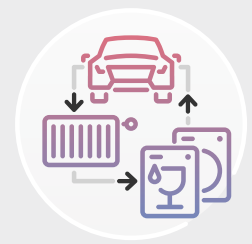
Up to 80% lower energy costs.\*



Climate-friendly heating - without fossil fuels.



Greater self-consumption of solar power through smart energy management.



All home appliances are combined in a single system.

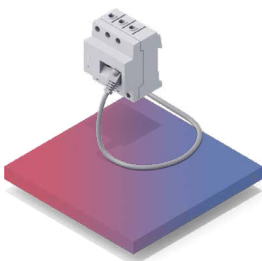
## Sunny Home Manager 2.0

### Cut your heating costs.

SMA Energy System Home allows you to operate a heat pump or heating element with your own solar power. Your Sunny Home Manager 2.0 controls the system so that solar power is prioritized for running the heat pump. Surplus energy is stored in a buffer storage system for use in the evening and at night, meaning that you will need less power from the grid in the evening.



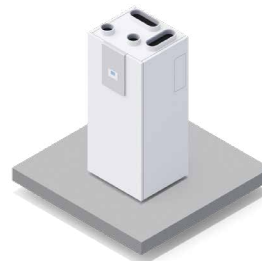
## System components



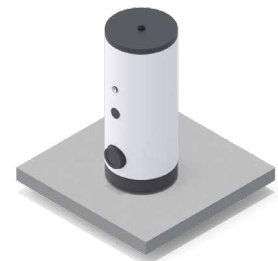
**Energy manager:**  
Sunny Home Manager 2.0 intelligently supplies heat pumps and heating elements as well as appliances and e-vehicles.



**SMA Energy app:**  
The SMA Energy app gives you all the relevant information about your system at a glance, whenever and wherever you are.



**Compatible heat pumps:**  
The heat pump converts ambient heat into usable heat and uses electricity from the PV system in the most efficient way (suppliers include AEG Haustechnik, Stiebel Eltron, Vaillant and Wolf).



**Thermal storage system:**  
Stores the heat produced by the heat pump for later use.

■ Basic component    ■ Partner component

\* When you implement all of the SMA Energy System Home's applications.



Compatibility list for appliances



## 100% independent.

### Grid-quality solar power.

From the chalet in the Alps to an entire village – autonomous solar power supply systems work anywhere the sun shines.

### Be self-sufficient with solar power.

Our SMA Energy System with battery-storage system provides reliable, grid-quality solar power for homes, lodges, commercial and industrial enterprises, and even remote islands. In regions with low electrification rates, it enables sustainable economic development without diesel fuel.

#### SMA Energy Systems benefits

- Flexible options: single-phase operation or single-cluster system for three-phase off-grid and backup systems.
- Reliable energy supply thanks to high overload capability.
- Two AC connections enable an uninterruptible stand-alone grid supply.
- Ten-year warranty if you register with Sunny Portal.
- Modular expansion at any time.

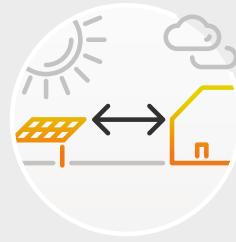
## Benefits



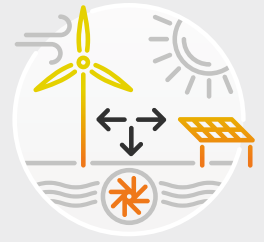
100% independence from the grid. Electricity and diesel cost savings.



Modular systems can be expanded if energy consumption rises.



AC coupling allows for long distances between energy sources and loads.



Several energy sources can be combined.

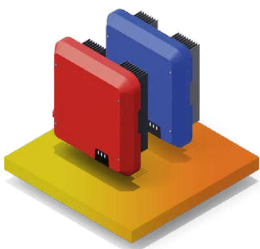
SMA Sunny Island battery inverter

## Stand-alone grid without diesel generator.

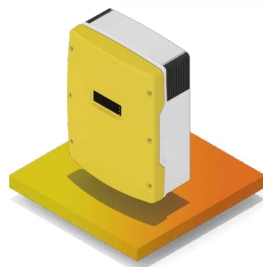
The SMA Sunny Island battery inverter is the heart and brain of any off-grid system. With its high overload capacity, the robust device reliably takes care of all load and generator management and can be expanded on a modular basis at any time.



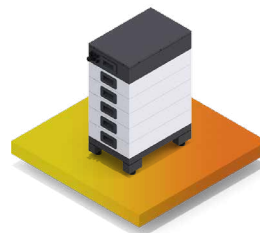
## System components



**Sunny Boy or Sunny Tripower:**  
An SMA inverter that converts solar power (direct current) into usable alternating current.



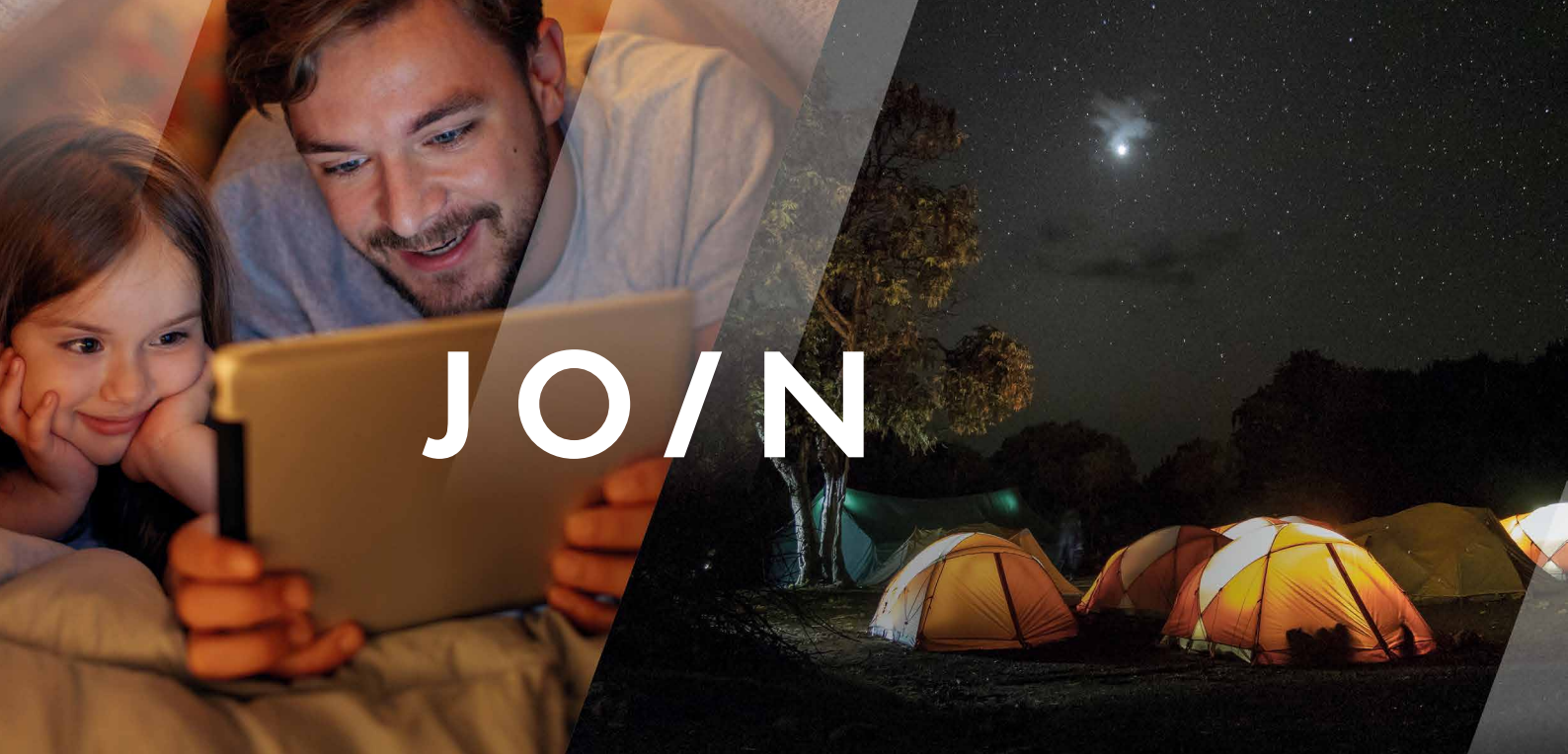
**Battery inverter:**  
SMA Sunny Island manages the off-grid system and ensures grid quality.



**Battery:**  
Efficiently stores the solar power and ensures a reliable energy supply (batteries supplied by external partners, for example, BYD or LG Chem).



**SMA Monitoring:**  
The Sunny Portal monitoring portal or the new Energy app allow you to monitor SMA energy flows as well as visualize and control the performance of your SMA Energy System Home.



# JOIN



## Your electricity tariff for the energy transition at home.

**Get your electricity from 100% renewable energy sources.**

With or without your own PV system – SMA JOIN makes you independent of coal and nuclear power. Play an active part in shaping the energy transition and ensure even greater sustainability inside your own home.

SMA JOIN is an electricity tariff based on 100% renewable energy sources supplied by predominantly decentralized plants in Germany – designed for anyone who wants to be part of the energy transition now.

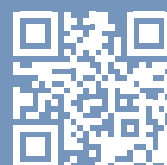
**Our vision:  
100% renewable energy for everyone.**

Through their SMA Energy Systems Home, millions of system operators already contribute to the energy transition. Our goal is to combine solar power generation and procurement to create the largest sustainable power plant in Germany. Sunshine is just a click away with SMA JOIN.

### Good to know

- If you already have a Sunny Portal account, changing tariff is even easier and faster.
- Even if you don't have your own PV system you can become part of the solar community and use the electricity tariff.

Find out more about electricity tariffs here:

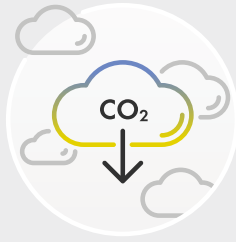




## Benefits



Help drive the energy transition as part of the community.



You can be independent of coal and nuclear power.



No minimum contract period, no fixed contractual obligations.



Guaranteed pricing\* allows for better planning.

\* On the price components that we can control.

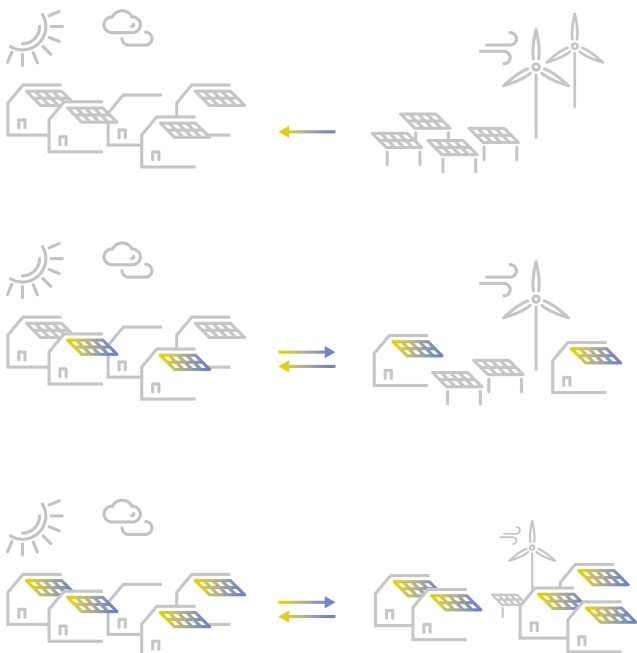
### SMA JOIN electricity tariff

## For the shapers of the energy transition.

Based on factors such as the size of the system, electricity demand and weather and seasonal fluctuations in generation, part of the electricity will come from the electric utility company. Yet this balance holds great potential. With SMA JOIN, you can supply your household with 100% renewable electricity.



## The path to the solar community



**Today:** With the electricity tariff from 100% renewable energy sources you can help shape the energy transition and get electricity from decentralized renewable power generation plants.

**Tomorrow:** PV system operators will feed surplus solar power into the solar community and turn SMA JOIN into the solar power tariff.

**Beyond tomorrow:** Reap the benefits of solar power at the touch of a button as part of the solar community with SMA JOIN.



# When the power you need comes from your own rooftop.

The Butterweck-Werner family relies on solar power. They gradually expanded their PV system to include an energy management system, battery storage and e-mobility. As a result, the family from Kassel, Germany, needs to buy very little electricity from the grid.

## Objectives

Generate and supply the household with clean, cost-efficient solar power and become independent from utility companies.

## Solution

Installation and modular expansion of an SMA Energy System Home. The basic system was complemented by a storage system and smart energy management.

## Result

- Up to 90% of energy consumption covered by self-generated solar power.
- Monthly electricity bill cut down to less than €20.
- Integrated electric car powered by clean, green solar power further reduces the family's carbon footprint.

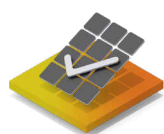
## Household appliances powered by the sun.

When the Butterweck-Werners were planning their new home in 2009, one thing was clear: they needed a PV system. Their sustainable, low-carbon lifestyle is something they want to pass on to their son. With their PV system, the family of three wanted to cover as much of their energy consumption as possible with their own power and save big on their utility bills.

The energy in the new home is green and self-generated. The 13.455 kWp PV system generates exactly 11,033 kWh of solar power per year and supplies electricity for the washing machine and dishwasher from the rooftop PV system. Self-generated green power is also used to provide warm water and energy for heating.

# Your SMA inverter can do more.

With SMA inverters, you benefit from an exceptionally slim system design. Our devices already contain everything you need for a reliable and highly sustainable energy supply. Smart features optimize the yield of your PV systems in every situation at no extra cost.



## SMA ShadeFix

It is not always possible to prevent dormer windows, chimneys, trees and other obstructions from casting shadows on PV modules. Our proprietary inverter software optimizes your energy yield automatically and in every situation.

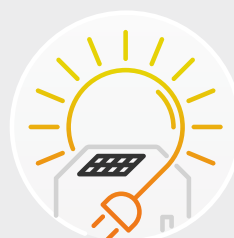
### Benefits



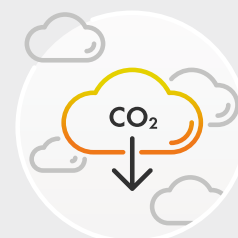
**Higher yield** in every situation and over the entire lifetime of the system.



**Enhanced reliability** due to fewer components.



**Longer service life** thanks to tried-and-tested SMA quality.



**Greater sustainability** through efficient complete solutions and high recyclability.



## SMA Smart Connected

In case of malfunction, our free inverter monitoring function provides your installer automatically with the right diagnosis so that he can service the device with pinpoint accuracy, minimizing downtimes for your system.



## SMA Energy app

The SMA Energy app allows you to keep track of your home's energy balance at a glance. You can see exactly whether the washing machine, dryer, dishwasher and heating system are currently using solar power or grid current. You can also charge your electric vehicle conveniently via your smartphone.



**We design future.  
From all angles.**



## Sustainable in every way.

### **State-of-the-art test centers guarantee supreme quality.**

In our certified test centers and our own PV systems our inverters undergo extensive tests and quality checks. We can simulate the entire service life of our equipment in quick motion. This is how we ensure the longevity of our inverters in extreme weather conditions, from intense heat or biting cold to high humidity, sandstorms and ground vibrations.

### **Future-proof solutions for the digital energy transition.**

The energy supply of the future requires intelligent platforms for comprehensive energy management. We use SMA ennexOS to combine electricity, heat and mobility securely and reliably. Our servers are located in Germany and have maximum protection against cyber attacks.

### **Suitable systems for global use.**

For almost 40 years, our inverters have been contributing to a sustainable energy supply worldwide. In private homes, hotels, agricultural or commercial enterprises and in power plants. In cities, in the country, in deserts, on islands and on mountain-tops, even in Antarctica. Our devices and solutions function reliably even in the toughest of conditions and comply with all international standards.

#### **A pioneer in the energy transition:**

90 GW of installed SMA inverter power stops the emission of 59 million tons of CO<sub>2</sub> a year worldwide.

#### **Innovation leader:**

3,100 SMA employees work with our partners and customers to deliver innovative solutions for the energy supply of the future.

#### **Leading supplier of storage systems:**

2 GW of SMA battery inverter power enables a sustainable power supply around the clock all over the world. This makes us the leading supplier of storage system technology.

Data from 2019/2020



# Why SMA?

For 40 years, our products and solutions have been paving the way for a climate-friendly, decentralized energy supply of the future.

We know that clean energy generation is not simply about developing the right technologies. It's also about how they are made. That's why we take a stance. We protect the environment and save resources. We use renewable energies. Our business is based on transparency, fairness and honesty. We adhere to these values at our workplace, in our daily business, throughout our organization and beyond. For a world worth having. Powered by us.



**72 tons of CO<sub>2</sub>**

Amount of carbon dioxide SMA employees saved in 2019 by charging their electric cars with renewable energy at the company's own charging stations.



**2001**

This is the year the first PV system was installed at our headquarters. Today, our own PV systems cover 38% of our total electricity consumption in Germany. The remaining electricity we use is also renewable.



**58%**

less energy used to produce 1 kW of inverter output compared to 4 years ago.



**€10.5 billion**

of environmental damage was prevented in 2019 through the use of SMA inverters.<sup>1</sup>

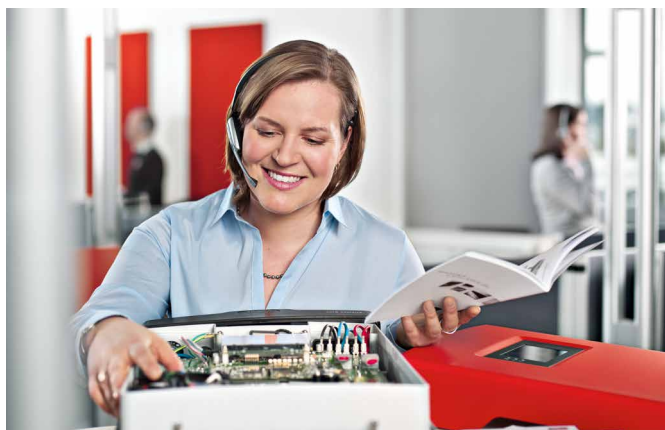


**100%**

transparency through our sustainability reporting in accordance with GRI standards.<sup>2</sup>

<sup>1</sup> Calculation: 85 GW total output of all installed SMA inverters x 1,300 kWh power generated per year x 0.53 kg CO<sub>2</sub>/kWh x €180 per prevented ton of CO<sub>2</sub> emissions (source costs: Federal Environment Agency)

<sup>2</sup> GRI = Global Reporting Initiative [www.globalreporting.org](http://www.globalreporting.org)



## SMA Service

SMA Service’s 40 years of experience make us an industry leader. Our SMA warranty gives our customers peace of mind. If your device needs servicing, we will provide a free replacement with all necessary updates. Your system’s downtime and yield losses will be reduced to a minimum.

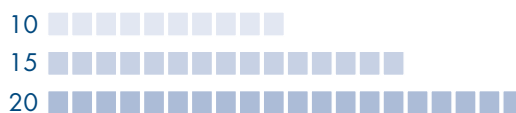
From hotline support to reliable service on-site, we are there for you when you need us. To allow us to process your inquiries more quickly, please register in the SMA Online Service Center so that we can respond quickly to your inquiries.

## SMA warranty

**Enjoy the benefits of our service warranty:**

- Free replacement inverter with all necessary updates
- Fastest possible recommissioning of your SMA Energy System Home
- Minimum downtime and safeguarding of your yields

Extend your warranty to keep your system protected for a very long time.



**years of peace of mind**

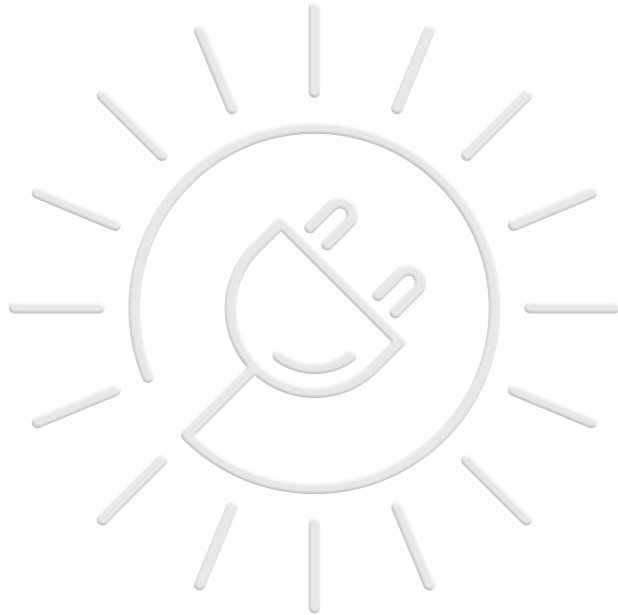


**SMA.com**





# SMA Energy Systems



---

Page 04	SMA Energy Systems Home
Page 16	Components of the SMA Energy Systems Home
Page 18	SMA Energy Systems Business
Page 32	SMA Energy Systems Business starter packages
Page 36	Benefits for PV-Professionals

---

The energy world is changing. Private households and companies are turning from power consumers into power producers. PV systems are increasingly common on roofs in cities and rural areas and drive the energy transition ahead. At the same time, digital technologies create completely new possibilities for actively shaping one's own energy supply and getting energy costs under control.

SMA Energy Systems allow your customers to easily take advantage of these new possibilities. Whether your customers want to generate, use and store their own solar power, monitor and control their electrical loads, heating systems and e-vehicles, or whether they want to achieve additional yields in the future by participating in the digital energy market, SMA Energy Systems offer a solution with perfectly matched components from a single source.

Applications and solutions for the home

---

## Generate solar power and use it effectively

→ Page 06



---

## Store solar power and use it flexibly

→ Page 08



---

## Manage appliances intelligently

→ Page 10



---

## Refuel with solar power

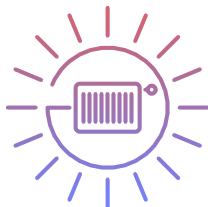
→ Page 12



---

## Solar-powered heating

→ Page 14





## Generate solar power and use it effectively

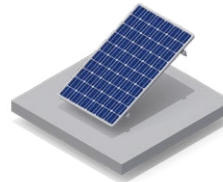
### Benefits

- + Save up to 30% on energy costs
- + Protection against rising energy prices
- + Additional income from grid feed-in or, in the future, direct marketing
- + Personal contribution to climate protection and conservation of resources

### Become your own green energy provider

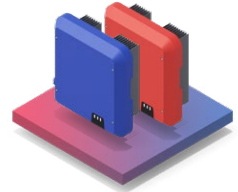
SMA Energy Systems for your home help you cut your energy costs instantly and over the long term by allowing you to exploit the unlimited power of the sun to generate free and environmentally friendly solar power. This is how you become independent from electric utility companies and do not have to worry about rising energy prices. Any solar power that you do not need can be fed into your electric utility company's grid for a fixed feed-in tariff. Since the feed-in tariff is much lower than the power purchase price, it is worth using as much self-generated power as possible to minimize the amount of additional power you have to buy. In the future, you will also be able to sell the solar power. Thanks to your SMA Energy System, you will fulfill all the necessary technological criteria for the energy market of the future.

### Components



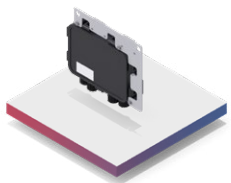
PV system

optimized for the local conditions, your requirements and your power demand



Sunny Tripower or Sunny Boy

SMA inverter that produces solar power and ensures a high self-consumption share



Optional

TS4-R

Module optimizer, ensures high module power even on complex roof structures and in heavily shaded areas



Optional

SMA Monitoring

monitor energy flows and visualize the power of your SMA Energy System via the Sunny Places web portal and, in future, via an app



SMA Smart Connected

automatically monitors your inverter and, if necessary, initiates immediate troubleshooting



## Store solar power and use it flexibly

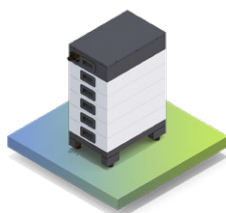
### Benefits

- + Up to 45% lower energy costs
- + Consume more solar power yourself by storing what you do not need
- + Use free solar power even when your PV system is not producing any electricity
- + Greater protection against rising energy prices



Sunny Boy Storage

The SMA battery inverter ensures that your solar energy is stored in the battery and is available again when needed



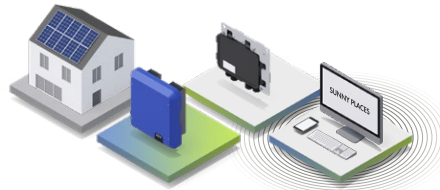
Battery

a highly efficient solution for storing solar power

Maintain your solar energy supply – even when the sun is not shining

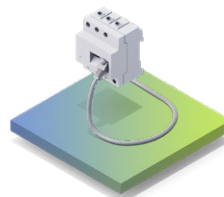
Sometimes, the sun delivers more power than you currently need. You would normally feed in the surplus power for a feed-in tariff that is considerably lower than the current power prices. Sometimes, however, solar power is not available when you need a lot of power – for example, if you want to charge your electric car overnight. This means that you would normally have to purchase expensive power from the utility grid. Your SMA Energy System makes it possible to consume a bigger share of your solar power yourself: Thanks to highly efficient storage systems, you can temporarily store electricity that is not needed immediately and use it later if necessary. You will therefore have to purchase less additional electricity from the grid. In fact, the benefits of consuming as much solar power as possible yourself instead of feeding the surplus power into the grid are twofold: You would receive less money for grid feed-in than you would have to pay for purchasing power from the utility grid.

### Components



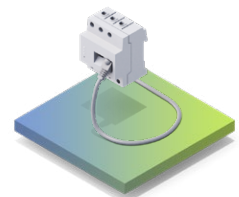
The basis: your SMA Energy System

with a PV system, SMA inverter Sunny Tripower or Sunny Boy and SMA TS4-R module optimizers (optional), SMA Monitoring (optional) [more information → Page 07]



Sunny Home Manager 2.0

the Sunny Home Manager is an intelligent energy manager



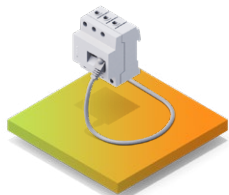
SMA Energy Meter (alternative to Sunny Home Manager 2.0) the high-performance measurement solution for intelligent energy management



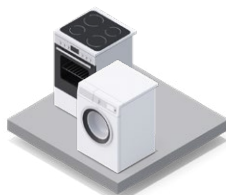
## Manage appliances intelligently

### Benefits

- + Up to 60% lower energy costs
- + Use more solar power yourself through intelligent energy management
- + Save money and live more greenly without sacrificing comfort or convenience
- + Combine all household loads in a single system



Sunny Home Manager 2.0  
the Sunny Home Manager is an intelligent energy manager

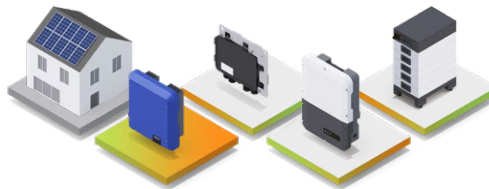


Intelligent home appliances with the EEBUS interface  
this can be integrated directly into the system and controlled (e.g., from BSH home appliances)

### Systematic and intelligent energy management

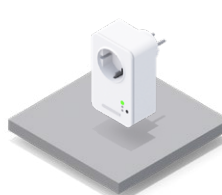
SMA Energy Systems for your home ensure that appliances such as your washing machine, dryer or dishwasher are operated only in periods when your PV system is delivering sufficient solar power – manually or completely automatically. This means that you use more self-generated solar power and do not have to purchase as much additional energy from the utility grid. By prioritizing consumption of your own solar power, you can operate home appliances with a high energy efficiency class even more economically and thus optimize your ecological footprint. The Sunny Home Manager combines all energy flows in your home to create an intelligent system and, if you require, can control them fully automatically to help you get the most out of your solar power. On the basis of an online weather forecast and your own consumption analysis, the system creates a day-by-day yield forecast. As a result, Sunny Home Manager 2.0 knows in advance exactly when a lot of solar power will be available and when the right time is to start the washing machine.

### Components



#### The basis: your SMA Energy System

with a PV system, SMA Sunny Tripower or Sunny Boy inverters and SMA TS4-R module optimizers (optional), SMA Sunny Boy Storage battery inverter (optional) and battery (optional)  
[more information → Page 09]



Edimax SP-2101W v2 radio-controlled socket2  
this simple loads to be visualized in the system and switched on/off intelligently as required



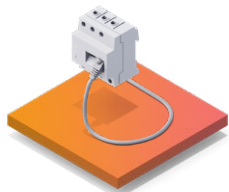
SMA Monitoring  
monitor energy flows and visualize the power of your SMA Energy System via the Sunny Places web portal and, in future, via an app



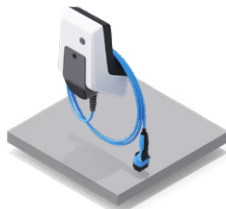
## Refuel with solar power

### Benefits

- + Up to 60% lower energy costs
- + Use more solar power yourself through intelligent energy management
- + Climate- and resource-friendly mobility – with no fossil fuels
- + Combine all household loads in a single system



Sunny Home Manager 2.0  
the Sunny Home Manager is an intelligent energy manager



Compatible charging system  
this prioritizes self-generated solar power for charging your e-vehicle. The system is compatible with the charging systems of various manufacturers.

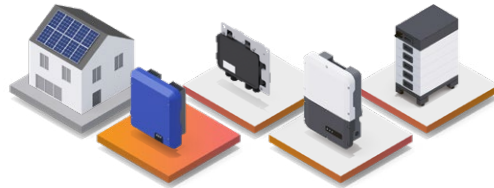


SMA Monitoring  
Optional  
monitor energy flows and visualize the power of your SMA Energy System via the Sunny Places web portal and, in future, via an app

### Driven by the sun

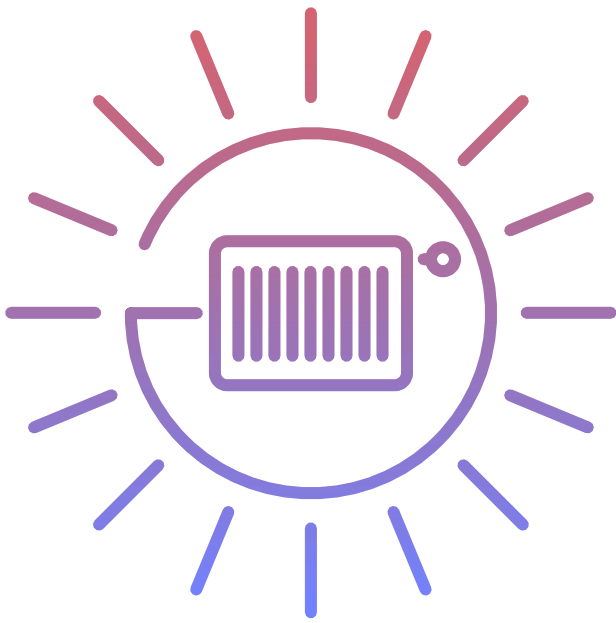
SMA Energy Systems for your home make e-mobility ecologically and economically sensible: Thanks to Sunny Home Manager 2.0, you can charge your electric vehicle when your PV system is delivering enough solar power for this. On the basis of an online weather forecast and your own consumption analysis, the system creates a day-by-day yield forecast. As a result, Sunny Home Manager 2.0 exactly knows in advance when a lot of solar power will be available. This helps increase the share of solar power that you consume yourself. Every kilowatt hour of solar power that you consume is power that you no longer have to purchase at high cost from your electric utility company. The power is converted directly to kilometers – it could not be any easier, cleaner or more cost-effective! The Sunny Home Manager 2.0 shows the solar share of your consumption. On this basis, you can easily calculate how many kilometers you have driven with solar power. Sunny Home Manager 2.0 connects your electric car and all other loads to create a single, intelligent system. All consumption cycles are controlled so that you consume as much solar power as possible, which in turn helps you cut your energy costs considerably.

### Components



#### The basis: your SMA Energy System

with a PV system, SMA Sunny Tripower or Sunny Boy inverters and SMA TS4-R module optimizers (optional), SMA Sunny Boy Storage battery inverter (optional) and battery (optional)  
[more information → Page 09]



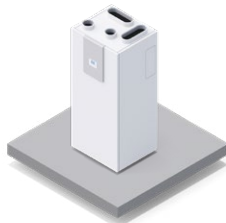
## Solar-powered heating

### Benefits

- + Up to 60% lower energy costs
- + Use more solar power yourself through intelligent energy management
- + Climate-friendly home heating – with no fossil fuels
- + Combine all household loads in a single system



Sunny Home Manager 2.0  
the Sunny Home Manager is an intelligent energy manager

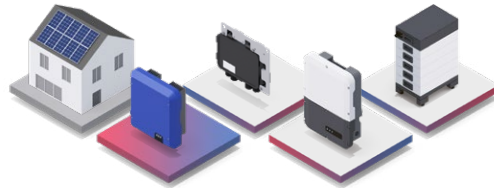


Compatible heat pump  
this converts ambient heat to usable heat for which power is needed (e.g. from Stiebel Eltron, Vaillant, Wolf and my-PV)

### Cut your heating costs

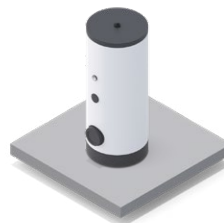
Thanks to SMA Energy Systems for your home you can also use your self-generated solar power to heat your home – for example, using a heat pump or heating element. Sunny Home Manager 2.0 controls the system so that solar power is prioritized for running the heat pump and the surplus energy is efficiently stored for later use in a thermal storage system. On the basis of an online weather forecast prepared by SMA and your own consumption analysis, the system creates a day-by-day yield forecast. As a result, Sunny Home Manager 2.0 knows in advance when exactly a lot of solar power will be available – and when the right time is to fill the thermal storage system via the heat pump. Integrating your heating system allows you to consume more of your own solar power, which reduces the amount of additional power you need to purchase from the utility grid. It is always worth consuming as much solar power as possible yourself instead of feeding the surplus power into the grid: You would receive less money for grid feed-in than you would have to pay for purchasing power from the utility grid. In this way, you can dramatically cut your heating costs and, in turn, your overall energy costs.

### Components



#### The basis: your SMA Energy System

with a PV system, SMA Sunny Tripower or Sunny Boy inverters and SMA TS4-R module optimizers (optional), SMA Sunny Boy Storage battery inverter (optional) and battery (optional)  
[more information → Page 09]



Thermal storage  
this saves the heat generated by the heat pump for later use



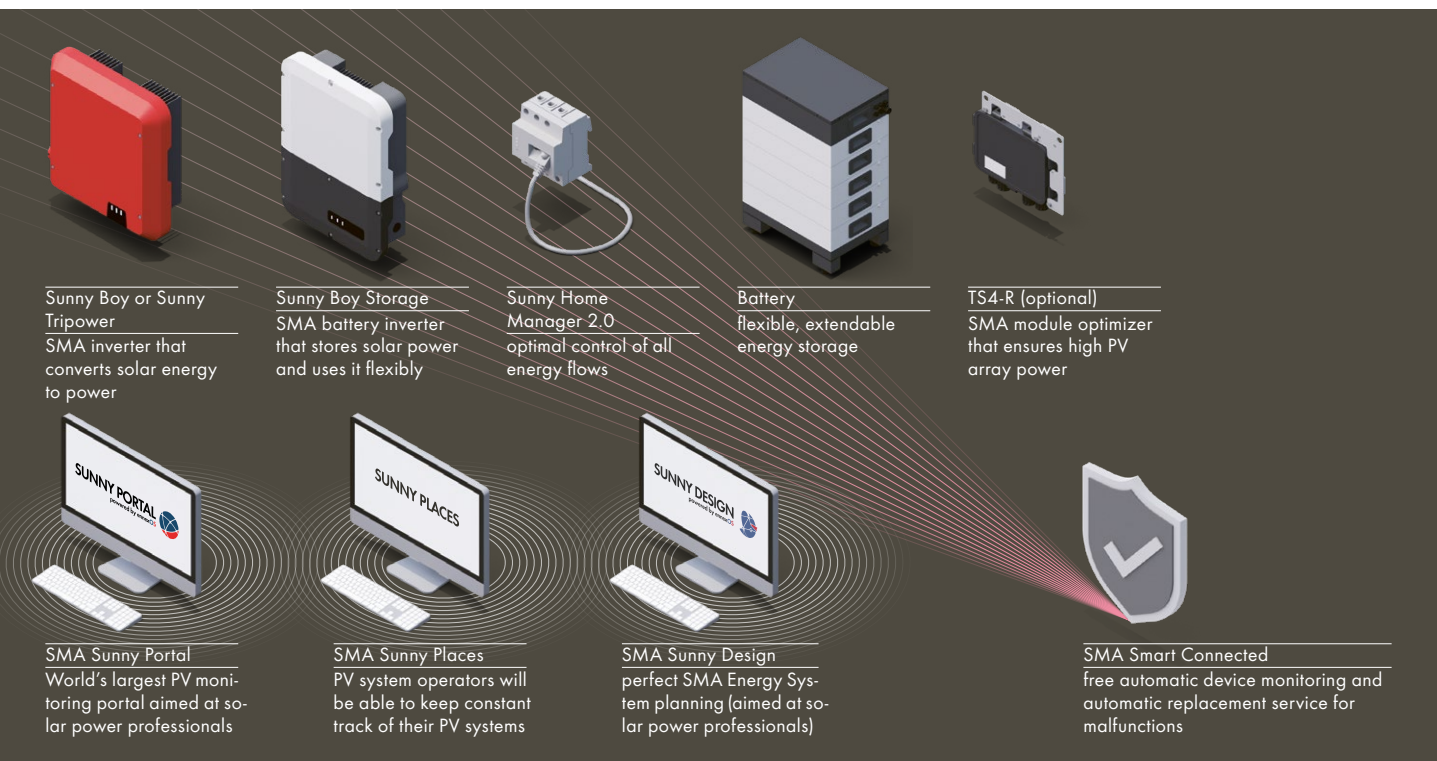
SMA Monitoring  
Optional  
monitor energy flows and visualize the power of your SMA Energy System via the Sunny Places web portal and, in future, via an app



## Individual solutions for your home.

The SMA Energy System for your home can be easily planned thanks to Sunny Design. With its modular structure, you can start with the comprehensive system or a smaller solution and gradually expand it, depending on what best suits your needs and budget.

### SMA Energy Systems Home components



Applications and solutions for businesses, supermarkets and agriculture

---

## Generate solar power and use it effectively

→ Page 20



---

## Store solar power and use it flexibly

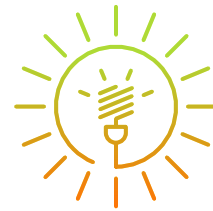
→ Page 22



---

## Manage energy

→ Page 24



---

## Fill up on solar power Coming soon.

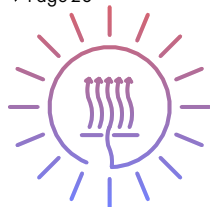
→ Page 26



---

## Use solar power for heating Coming soon.

→ Page 28



---

## Sell your solar power – directly and with ease

→ Page 30





## Generate solar power and use it effectively

### Benefits

- + Up to 30% lower energy costs
- + Planning reliability and protection against rising energy prices
- + Particularly high yields increase ROI (Return on Investment)
- + Additional income from grid feed-in
- + Tax benefits through deduction of capital expenditure and special depreciation
- + Enhanced image through demonstration of commitment to climate protection and conservation of resources

### Economically beneficial, ecologically exemplary

SMA Energy Systems for Business help you cut your energy costs easily and long term by generating environmentally friendly solar power for your company. This will ensure that you are less reliant on electric utility companies and allow you to plan your future power supply more reliably. Any solar power that is not used in your company can be fed into the utility grid for a fixed feed-in tariff. In addition, a PV system on your roof shows your customers and employees that you are serious about achieving your environmental targets. And from a system size of 100 kWp, you will benefit from the proceeds of direct marketing on the power exchange. To achieve this, you will also need the optional SMA Data Manager M, which monitors the energy flows and controls the volume of power that is not required.

### Components



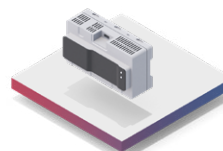
PV system

optimized for the local conditions, your requirements and your power demand



Sunny Tripower CORE1

SMA inverter that produces solar power



Optional

SMA Data Manager M

Energy manager that operates in conjunction with SMA Monitoring and is responsible for communication and overall system monitoring



Optional

SMA Monitoring

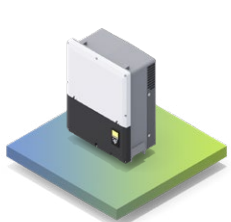
enables easy and efficient online monitoring of your SMA Energy System (with Sunny Portal powered by ennexOS and via mobile app)



## Store solar power and use it flexibly

### Benefits

- + Cut energy costs by up to 40%
- + Cap load peaks by using stored solar power as and when needed
- + Increase self consumption of solar power: the most cost-effective use
- + Optimized use of time- and performance-based energy supply tariffs
- + Yields of up to 18 %  
(reference example: [gosma.de/SESde](http://gosma.de/SESde))



**Sunny Tripower Storage 60**  
SMA battery inverter: Store solar power temporarily in the SMA battery-storage system and make it available as required



**SMA battery storage**  
highly efficient solution for storing solar power

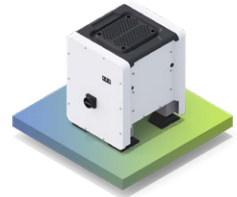
### Use solar power when it is worthwhile

Whether in small or medium-sized businesses, supermarkets or agricultural facilities, load peaks are a problem for any company. If the power consumption exceeds the quantity agreed upon with the electric utility company, this can lead to increased provision charges for all the power – often over the entire year. But a highly efficient battery-storage system can help you avoid expensive load peaks by allowing you to store solar power temporarily and use it whenever you need it. When a load peak is expected, the required power is drawn not from the utility grid but from the battery-storage system. Your electric utility company will stay completely unaware of this, and your rate will remain exactly as it is. However, battery-storage systems have other uses. In addition to helping you manage load peaks, for example, you can continue supplying operational machines with solar power even when the sun is not shining in turn reducing the amount of power that you need to purchase. This means that you increase the share of self-generated power in your company's energy mix – the most cost-effective use of solar power.

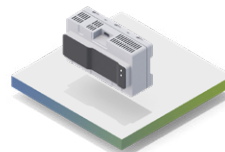
### Components



**PV system**  
optimized for local conditions, your requirements and your power demand



**Sunny Tripower CORE1**  
SMA inverter that produces solar power



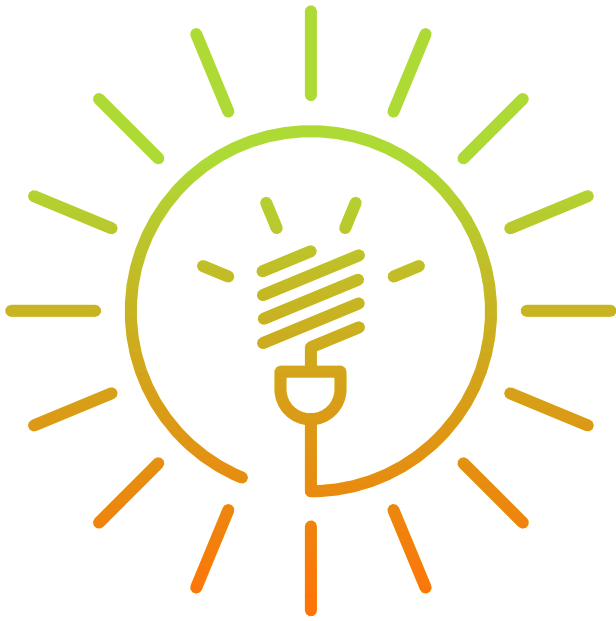
**SMA Data Manager M**  
Energy manager that operates in conjunction with SMA Monitoring and is responsible for communication and overall system monitoring

Optional



**SMA Monitoring**  
enables easy and efficient online monitoring of your SMA Energy System (with Sunny Portal powered by ennexOS and via mobile app)

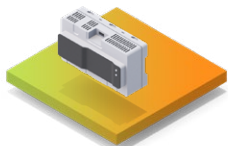
Optional



## Manage energy

### Benefits

- + Cut energy costs by up to 50%
- + Increase self consumption of solar power through intelligent energy management
- + In the near future:  
Harmonize and automatically control energy flows to avoid load peaks
- + One contact person for large parts of your energy supply



**SMA Data Manager M**  
Energy manager that operates in conjunction with SMA Monitoring and is responsible for communication and overall system monitoring



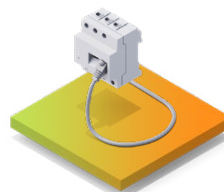
**SMA Monitoring**  
enables easy and efficient online monitoring of your SMA Energy System (with Sunny Portal powered by ennexOS and via mobile app)

### Components



The basis: your SMA Energy System

with a PV system, SMA Sunny Tripower CORE1, SMA Sunny Tripower Storage 60 (optional), SMA battery storage (optional)  
[more information → Page 23]



**SMA Energy Meter**  
monitors all energy flows



Coming soon.

## Fill up on solar power

### Benefits

- + Cut mobility costs
- + Make costs transparent through monitoring and achieve optimization potential
- + Climate- and resource-friendly mobility - with no fossil fuels

### Saving costs with integration of e-vehicle fleet

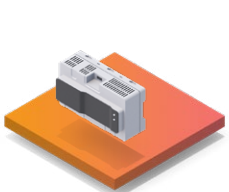
SMA Energy Systems for Business will soon enable the integration of charging systems (e.g., Mennekes, SMA EV Charger) into your company electric vehicles. This makes it easy for you to charge your electric vehicles with solar power from your PV systems and lower your mobility costs. With SMA Energy Systems for Business, you are perfectly positioned to meet upcoming requirements. Continue to reduce your mobility costs by electrifying your vehicle fleet and charging your vehicles with self-generated solar power. Whether company cars, commercial vehicles or floor-bound transportation vehicles for intralogistics - with our modular and expandable system, you are perfectly prepared for the future. You can already start planning with SMA. Do not miss out on the opportunity in the near future to generate additional yields by selling your self-produced solar power to customers or guests.

### Components



The basis: your SMA Energy System

with a PV system, SMA Sunny Tripower CORE1, SMA Sunny Tripower Storage 60, SMA battery storage, SMA Data Manager M  
[more information → Page 23]



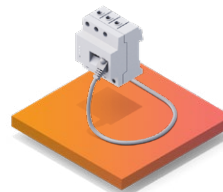
#### SMA Data Manager M

Energy manager that operates in conjunction with SMA Monitoring and is responsible for communication and overall system monitoring



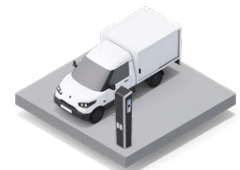
#### SMA Monitoring

enables easy and efficient online monitoring of your SMA Energy System (with Sunny Portal powered by ennexOS and via mobile app)



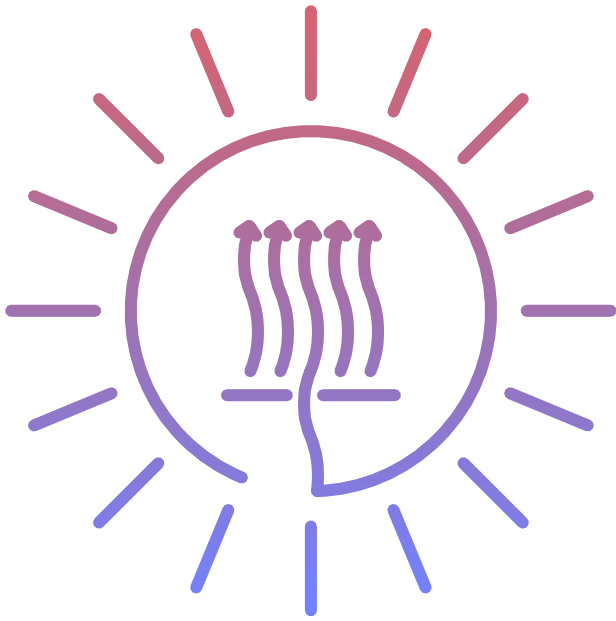
#### SMA Energy Meter

monitors all energy flows



#### Compatible charging system

uses self-generated solar power for charging your electric vehicles

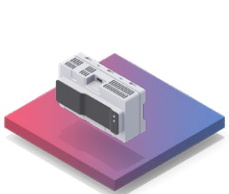


Coming soon.

## Use solar power for heating

### Benefits

- + Cut energy costs by up to 50%
- + Increase self consumption of solar power through intelligent energy management
- + Heat your business in an eco-friendly manner without fossil fuels and never pay for gas or oil bills again
- + Integrate heating, power generation and consumption to create a holistic system



#### SMA Data Manager M

Energy manager that operates in conjunction with SMA Monitoring and is responsible for communication and overall system monitoring



#### SMA Monitoring

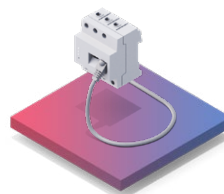
enables easy and efficient online monitoring of your SMA Energy System (with Sunny Portal powered by ennexOS and via mobile app)

### Components



The basis: your SMA Energy System

with a PV system, SMA Sunny Tripower CORE1, SMA Sunny Tripower Storage 60, SMA battery storage, SMA Data Manager M  
[more information → Page 23]



#### SMA Energy Meter

monitors all energy flows



Compatible heat pump or other power-consuming heating systems requires power to operate



## Sell your solar power – directly and with ease

### Benefits

- + Additional yields through direct marketing from 100 kWp
- + It could not be easier to become an energy trader – a signature and one click that's it
- + No extra hardware required means no extra costs
- + Receive your revenue reliably and automatically

### Generate additional yields on the energy exchange with ease

According to the Renewable Energy Sources Act (EEG), PV systems from 100 kWp are required to sell surplus power directly and cannot simply feed it into the grid for a fixed feed-in tariff. Many PV system operators avoid the time and effort involved in doing this and instead plan systems that remain just below this threshold. But they miss out on additional income that they could generate through direct marketing. SMA SPOT makes direct marketing remarkably easy with perfectly harmonized system technology – including remote control and online data monitoring – you can use to easily and sustainably integrate your PV system into direct marketing. We will support you in complying with all relevant legal requirements. A signature and one click, that's it – the rest will be done by your SMA Energy System in conjunction with SMA Data Manager M. This will help you optimize yields and boost the efficiency of your investment. From 2021, SMA SPOT will support direct marketing from older systems too, which at that point will stop receiving the Renewable Energy Sources Act (EEG) feed-in tariff.

### Components



The basis: your SMA Energy System

with a PV system, SMA Sunny Tripower CORE1, SMA Data Manager M [more information → Page 23]



#### SMA SPOT

the direct marketing service from SMA and the MVV direct marketer: the best way to sell your solar power on the energy exchange



#### SMA Monitoring

enables easy and efficient online monitoring of your SMA Energy System (with Sunny Portal powered by ennexOS and via mobile app)



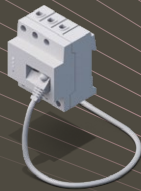
## All-inclusive: the preconfigured packages for businesses, supermarkets and agriculture

SMA Energy Systems for Business are modular in structure and can be planned very easily according to your individual requirements thanks to Sunny Design Pro. For standard applications, we have created two packages that will help you achieve your goals more quickly and easily than ever before.

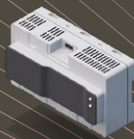
### SMA Energy Systems for Business: components of the S package



2 x Sunny Tripower  
CORE1 + power supply  
unit  
generates usable solar  
power



SMA Energy Meter  
monitors all energy  
flows



SMA Data Manager M  
powered by ennexOS  
simple control of the  
entire system



SMA Monitoring  
keep an eye on all energy sectors with  
Sunny Portal powered by ennexOS  
and via mobile app



SMA Smart Connected  
free automatic device monitoring and  
proactive communication in case of  
malfunction

10-year system warranty  
All-in-one carefree service for all  
products in the package

# SMA Energy Systems for Business: components of the XL package



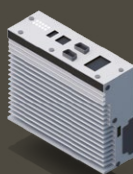
4 x Sunny Tripower CORE1 + power supply unit generates usable solar power



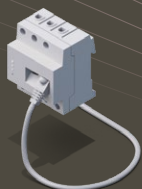
Sunny Tripower Storage 60 store solar power and use it flexibly



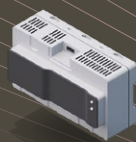
SMA Storage Business battery-storage system exceptional system efficiency



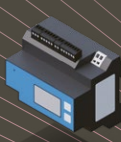
SMA Inverter Manager easy control of the battery inverter



SMA Energy Meter monitors all energy flows



SMA Data Manager M powered by ennexOS simple control of the entire system



Janitza UMG 604 Power analyzer



SMA Monitoring keep an eye on all energy sectors with Sunny Portal powered by ennexOS and via mobile app



SMA SPOT Direct marketing service from SMA and the MVV direct marketer



SMA Smart Connected free automatic device monitoring and proactive communication in case of malfunction

10-year system warranty + service commissioning All-in-one carefree service for all products in the package

# SMA Energy Systems

## Benefits for PV-Professionals

---

### SMA Energy Systems

#### Deliver one system from a single source

Thanks to the SMA Energy System, you can offer your customers a solution tailor-made to their individual needs – with perfectly matched components from a single source.

### SMA Commissioning Support

#### Commission even highly complex systems with ease

When you commission complex systems SMA can dispatch a specially qualified system technician to the site – and we will do this as often as you require.

### SMA Smart Connected

#### Detect problems before they cause problems

With SMA Smart Connected, SMA is the first manufacturer to offer free, automatic inverter monitoring that helps you provide your customers with a proactive, targeted service.

### Sunny Design Pro

#### Holistic energy system planning

Sunny Design Pro enables for the first time ever the planning and simulation of complex energy systems across all sectors – in just a few clicks.

### Sunny Portal powered by ennexOS

#### Easy, efficient and fast PV system monitoring

With Sunny Portal powered by ennexOS, you can access online and at any time the most important data for the SMA Energy System you have installed.

### Repowering, upgrading, extended warranty

#### Maintain excellent long-term customer relations

The SMA Energy System grows with the needs of its users and your business. As a result, you can continuously generate new orders for yourself and leverage your sales potential.

SMA Solar Technology AG  
Sonnenallee 1  
34266 Niestetal  
Germany  
Tel. +49 561 9522-0  
Fax +49 561 9522-100  
info@SMA.de  
www.SMA.de

Changes to products and services,  
also due to country-specific requirements,  
as well as deviations of technical data  
reserved. SMA assumes no liability  
for errors and misprints. For the latest  
information please contact  
[www.SMA-Solar.com](http://www.SMA-Solar.com)

Concept, design, information graphics:  
schmitz Visuelle Kommunikation  
[www.hgschmitz.de](http://www.hgschmitz.de)

Printed by:  
Druckhaus Ley & Wiegandt,  
Wuppertal

