

SMA HOME ENERGY SOLUTIONS

# Heat with Solar Power

Intelligently combining PV systems and heat pumps optimizes self-consumption and protects against rising energy costs. Shape the energy transition in your customers' homes.







# Combining PV systems and heat pumps the smart way

More and more people want to use energy independently and save on their energy costs over the long term. SMA Home Energy Solutions are the ideal solutions for this. Combine a PV system and heat pump to provide a comprehensive energy supply solution and unlock new business potential.

Heating and hot water appliances account for as much as 70% of household energy needs. The solution for countering these high heating costs is to provide a heat pump operated by solar power generated on the customer's own roof.

PV systems and heat pumps are the perfect match. PV systems produce cost-effective electricity for operating the heat pump. This is a great way to optimize the self-consumption of solar power in your customers' households and enhance the efficiency of the PV system.

## No-cost heating

The Sunny Home Manager 2.0 acts as an interface between the PV system and heat pump, automatically sending the electricity from the PV system to the thermal storage system. As a result, your customers don't need to use as much grid power to operate the heat pump. They can reduce their heating costs, increase the efficiency of their PV systems and do their part to protect the climate by using more solar power in their homes.

## Here's how your customers will benefit:

- ✓ Greater independence from rising energy prices
- ✓ Sustainable energy supply thanks to optimized self-consumption of solar power

## A little box with a big impact: three reasons to invest in the Sunny Home Manager 2.0

### Energy management and power measurement in a single device

- Integrate up to 24 appliances and actively manage 12 appliances
- Users can prioritize when appliances are switched on
- Measure and control energy flows in the home based on predictive energy planning

### Installs easily and reduces costs

- Easy installation using top-hat rail mounting
- Plug-and-play configuration after installation in the switch cabinet
- Lower system costs thanks to fewer components
- SMA Speedwire LAN connection, automatic updates

### Future-proof and flexible system design

- Standard interfaces SG Ready, EEBUS and SEMP
- Compatible with cost-effective standard radio-controlled sockets
- Compatible with all common SMA PV and battery inverters\*
- Can be used in single-phase and three-phase systems (up to 63 A)



## Integrated energy for the home: Intelligently combine electricity, heat and transportation

When connected to the relevant appliances and the PV system, the Sunny Home Manager 2.0 always knows how much PV power is available and where it is needed. To do this, it uses online weather forecasts, adapts them to local conditions, and then compares them with the custom requirements specified by system operators.

### Manage energy easily and intelligently

You can integrate the major sources of energy consumption in the home (electricity, heating and transportation) on a flexible basis, according to your customers' individual needs and budgets.

- ✓ Supply home appliances intelligently with solar power
- ✓ Recharge with solar power
- ✓ Heat with solar power



\* Third-party PV inverters can be supported with an additional SMA Energy Meter.

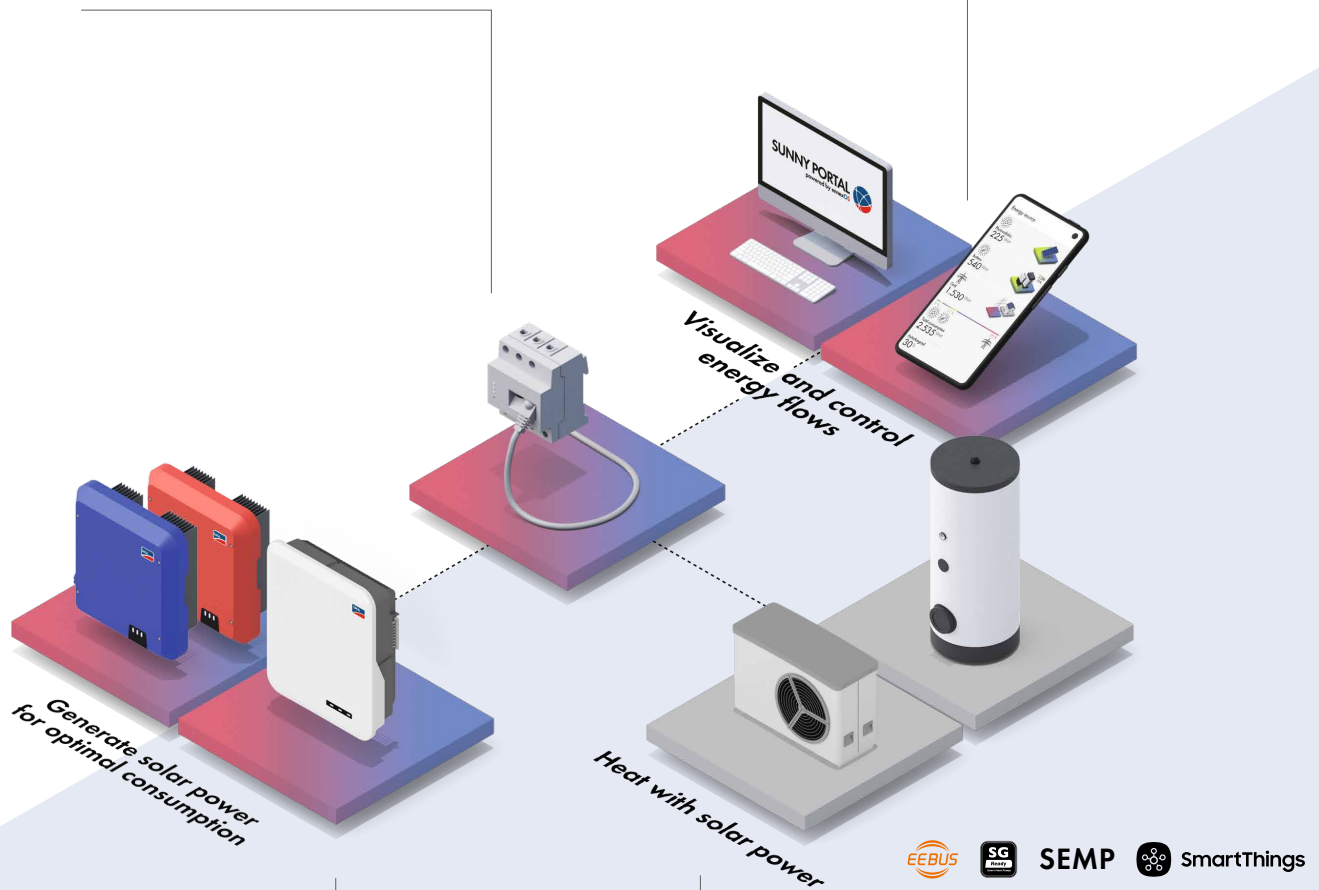
# Here's how the smart combination of solar power and heat pump works

## Smart energy management

The Sunny Home Manager 2.0 is the smart interface between the PV system and electrical or thermal appliances. On the basis of forecasts, it controls the energy flows according to the operator's requirements – automatically and through self-learning.

## Display energy flows

The online SUNNY PORTAL allows you to view your customers' systems at a glance and quickly identify any irregularities. Your customers can also manage their energy systems using the SMA Energy app.



## Generate solar power and use it effectively

SMA Home Energy Solutions are based on the PV system comprising SMA's Sunny Boy or Sunny Tripower inverters or SMA's Sunny Tripower Smart Energy hybrid inverter.

## Heat with solar power

The heat pump and Sunny Home Manager 2.0 are capable of communicating via a range of interfaces: SG Ready, EEBUS, SEMP or Samsung SmartThings.\*

\* Samsung SmartThings is available for Samsung heat pumps only.

# Your customers will benefit from your knowledge

As inert appliances with relatively high energy requirements, heat pumps in particular benefit from predictive energy management.



## Utilize surplus PV energy with the SG Ready interface

Heat pumps equipped with an SG Ready interface can be controlled directly from the Sunny Home Manager 2.0. It sends activation recommendations when sufficient solar energy is available, meaning that the temperature in the buffer tank or of the panel heating system can be increased.

A Sunny Home Manager 2.0 PLUS Moxa (Moxa iologik E1214) or radio-controlled socket (EDIMAX, AVM Fritz!Dect, Niko or Shelly) is used for PV systems equipped with inverters and without an integrated SG Ready relay.

And thanks to its integrated, potential-free contact, the Sunny Tripower Smart Energy hybrid inverter is capable of directly controlling heat pumps equipped with an SG Ready interface.

**Components:** PV system including inverter, Sunny Home Manager 2.0 (possibly including Moxa), heat pump featuring SG Ready interface plus buffer tank.

### Benefits

- Very simple interface
- Currently more than 2,400 heat pumps available



## Direct communication with a standardized EEBUS connection

Power is consumed in accordance with the specifications of the self-learning Sunny Home Manager 2.0. The amount of solar power generated can be optimized in line with the heating requirements.

**Components:** PV system including inverter, Sunny Home Manager 2.0, compatible heat pump with EEBUS connection, optional buffer tank.

### Benefits

- Standard interface
- Straightforward configuration, low installation outlay
- High system efficiency
- Graphic display in Sunny Portal

## SEMP

### Intelligent management thanks to deep system integration via the SEMP

Selected heat pumps can be managed directly from the Sunny Home Manager 2.0 via the Solace Element Management Protocol (SEMP). Power is consumed in accordance with the specifications of the self-learning Sunny Home Manager 2.0. The amount of solar power generated can be easily optimized in line with the heating requirements.

**Components:** PV system including inverter, Sunny Home Manager 2.0, heat pump with SEMP, optional buffer tank.

### Benefits

- Active management of all appliances
- Straightforward configuration, low installation outlay
- High system efficiency
- Graphic display in Sunny Portal

## SAMSUNG IN PLANNING STAGE



SmartThings

SUNNY PORTAL

powered by ennexOS



### Cloud-to-cloud connection for Samsung heat pumps

Integrate Samsung heat pumps with the SMA energy system. Data can be displayed in Samsung SmartThings.





## Alternative heating systems

What if local conditions or your customer's budget rule out a heat pump? Heating elements and other common heating systems can be easily retrofitted in existing PV systems. They can also be integrated into an oil-fired, gas-fired or pellet heating system.

The myPV heating element is controlled directly from the Sunny Home Manager 2.0 via the SEMP.

**Components:** PV system including inverter, Sunny Home Manager 2.0, alternative heating system, optional buffer tank.

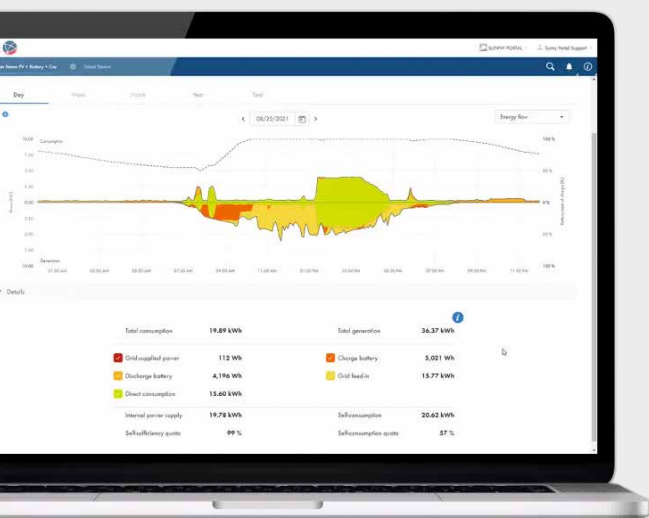
### Benefits

- Cost-effective thermal storage system
- Active management of all appliances
- Straightforward configuration, low installation outlay
- Graphic display in Sunny Portal

The following radio-controlled sockets are capable of communicating with the Sunny Home Manager 2.0: Niko, EDIMAX, AVM FRITZ!Dect or Shelly\*.

# SMA 360° Professional Support

With SMA 360° Professional Support, SMA supports its partners from the first moment of contact through to commissioning and delivers optimal customer service.



**SUNNY PORTAL**  
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## Configure the heat pump and optimize energy management

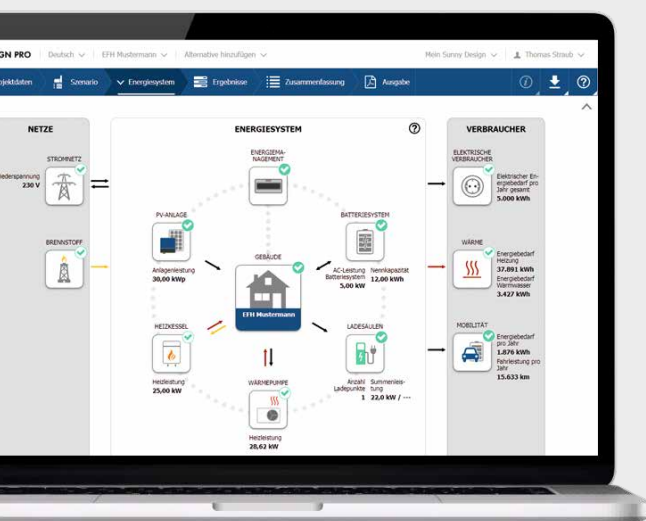
Configure the energy system with the heat pump and Sunny Home Manager 2.0 in Sunny Portal. This allows you to perfectly align energy management with the yield curve of the PV system.

Sunny Portal provides a concise and convenient overview of all yield data and makes system monitoring and management straightforward and efficient. Use it to optimize your customers' energy system yields and quickly identify when the energy system is not working as it should.

# SMA is your partner for shaping the energy transition in your customers' homes

Delivering customized energy solutions:  
Your customers' requirements are as specific as the local conditions. We can support you with practical training.

- Assistance for planning, sales, installation, operation and servicing with SMA 360° Professional Support
- Practical training courses provided at the SMA Solar Academy training center, by webinar or TechTip video:  
[SMA.de/en/Academy](https://SMA.de/en/Academy)
- **Our tip:** You can get more information from the TechTip videos on our SMA YouTube channel as well:  
[YouTube.com/SMASolarTechnology](https://YouTube.com/SMASolarTechnology)



**SUNNY DESIGN**  
powered by ennexOS

## Plan your energy system easily and in line with your specific needs

You can design your customers' energy systems in line with their specific requirements and visualize the results clearly using the free Sunny Design planning software.

Show your customers within the comfort of their own homes how they can optimize their self-consumption with smart energy management. And calculate how this will increase the efficiency of the overall system.

Learn more about Sunny Design free of charge at  
[www.sunnydesignweb.com](https://www.sunnydesignweb.com)



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