

Instructions for integrating
AC•THOR / AC•THOR9s / AC ELWA 2
into SMA Sunny Home Manager (SHM)
or SMA Energy Meter



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1. Default settings on my-PV device

Before commissioning, it is essential that you read the assembly instructions that accompany the device, as well as the operating instructions available on line.

Find the AC•THOR operation manual [here](#).

Find the AC ELWA 2 operation manual [here](#).

2. Communication with SMA

AC•THOR or AC ELWA 2 are connected to SMA in the network via a router. Within this network, the device receives the surplus PV power information by SMA through its meter.

 Do not connect the device directly to the inverter or battery system!

Two control types are available for SMA:

SMA Home Manager	<p>The power signal which the SMA Sunny Home Manager gives the my-PV device depends not only on the feed-in, but also on the superordinate energy planning that can be configured in the SMA Portal. In this control mode, the SMA Home Manager decides when the my-PV device outputs power.</p> <p>NOTE: There are no records of grid consumption and grid feed-in in the my-PV Cloud.</p>
SMA Direct meter communication	<p>This control type can be used with the signal sources SMA Energy Meter and SMA Sunny Home Manager.</p> <p>In contrast to the "SMA Home Manager" control type, the my-PV device itself takes over the function of the controller, as the surplus information is read directly from the SMA meter. The power control is carried out much faster than with the "SMA Home Manager" control type.</p> <p>NOTE: The my-PV device is not listed in the load overview in the Sunny Portal.</p> <p> This control type is available for the AC•THOR from firmware version a0020202, for the AC ELWA-E from firmware version 201.00!</p> <p>NOTE for AC•THOR: To install this firmware on already delivered devices, please send us the 16-digit serial number to support@my-pv.com. We will gladly activate the update for you!</p>



TIP: The control settings can only be adjusted if the my-PV device has the factory preset device number "1". Even if several devices are controlled by „SMA Home Manager“, it is not necessary to change the device numbers! See heading "Basic settings" also on the "Setup" page.

▲ Basic Settings

Number:

1

Max. power:

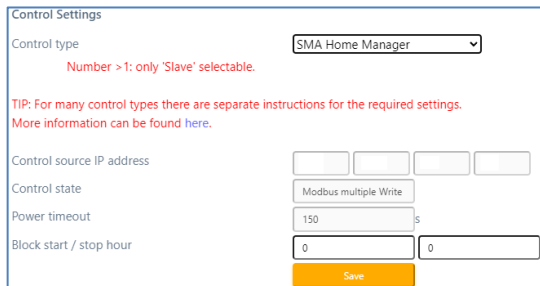
100

%

Save

3. Settings on my-PV device for "SMA Home Manager"

"SMA Home Manager" must be selected either on the display **or** in the web interface for the control type. Further settings are **not** required for communication with SMA.



TIP: If the device is not found immediately by the Sunny Home Manager, a restart after saving the control type may help!



TIP for optimized use of the AC•THOR by the Home Manager.

If a heating element <3kW is connected to the AC-THOR, or if a heating element <9kW is connected to the AC-THOR 9s, then set the rated power of the heating element using this URL command on the AC•THOR:

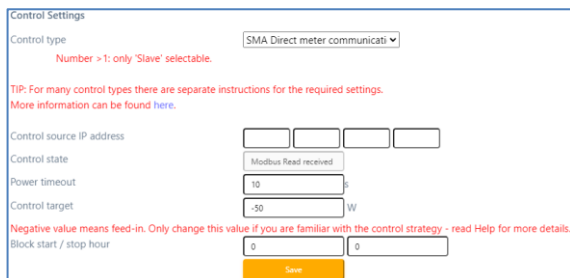
IP-Adress **xxx.xxx.xxx.xxx/setup.jsn?shmaxpower=6000**
(Example for a 6kW heating rod at the AC•THOR 9s)

You can check the correctness of the parameter entry in Sunnyportal. The value "Power consumption:" 9000 W must be changed to the entered value after a few minutes.

4. Settings on my-PV device for "SMA Direct meter communication"

This control is suitable for both the SMA Sunny Home Manager and the SMA Energy Meter!

"SMA Direct meter communication" must be selected in the web interface **or** on display for the control type. Further settings are **not** required for communication with SMA.



Control Settings

Control type: SMA Direct meter communication

Number > 1: only 'Slave' selectable.

TIP: For many control types there are separate instructions for the required settings.
More information can be found [here](#).

Control source IP address: [][][][]

Control state: Modbus Read received

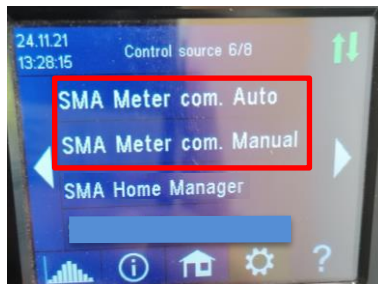
Power timeout: 10 s

Control target: -50 W

Negative value means feed-in. Only change this value if you are familiar with the control strategy - read Help for more details.

Block start / stop hour: 0 0

Save



Select "SMA Direct meter communication **Auto**" if there is only one meter.

Select "SMA Direct meter communication **Manual**" if there are multiple meters on the network and a specific one of them is to be selected as the control source by specifying its IP address.

⚠ When communicating with "SMA Direct meter communication Manual" via network, the IP address of the inverter must not change during operation (e.g. by a DHCP router), otherwise AC•THOR or AC ELWA 2 will lose the control signal!

⚠ The multicast address 239.12.255.254 (default destination address) must be set on the Energy Meter!

NOTE: Sometimes network switches filter this multicast. Then deactivate "IGMP snooping" on the switch.

⚠ If this type of control is used in combination with a storage battery, we recommend setting the "Control target" to "-200" Watt!

5. Integrating in the Sunny Portal for control type “SMA Home Manager”



The SHM must already be registered in the SMA portal!

If – Configuration – Device overview is selected in the SMA portal, only the SHM will be displayed at first. AC•THOR or AC ELWA 2 will not appear to start with. Once the configuration process is complete, it will appear in the lower-level menu item – Load overview and planning.

SUNNY PORTAL English

SMA Online Store | Dominik Main

Test

- PV System Overview
- PV System Profile
- Current Status and Forecast
- Energy Balance
- Annual Comparison
- PV System Monitoring
- PV System Logbook: 0
- Analysis
- Report (2)
- Configuration
- PV System Properties
- PV System Presentation
- Device Overview
- Load Overview and Planning
- Report Configuration
- User Management
- Sunny Portal products

Device Overview Overview of New Devices

A new device has been detected in this PV system.
Set up device now >

Device Name: Serial Number: Devices: Data Collection:

Refresh Reset Update parameters

Device Name	Serial Number	Product Group	Data Collection	Monitoring	Properties	Parameters	Logbook
Home Manager 878	157004878	Sunny Home Manager					

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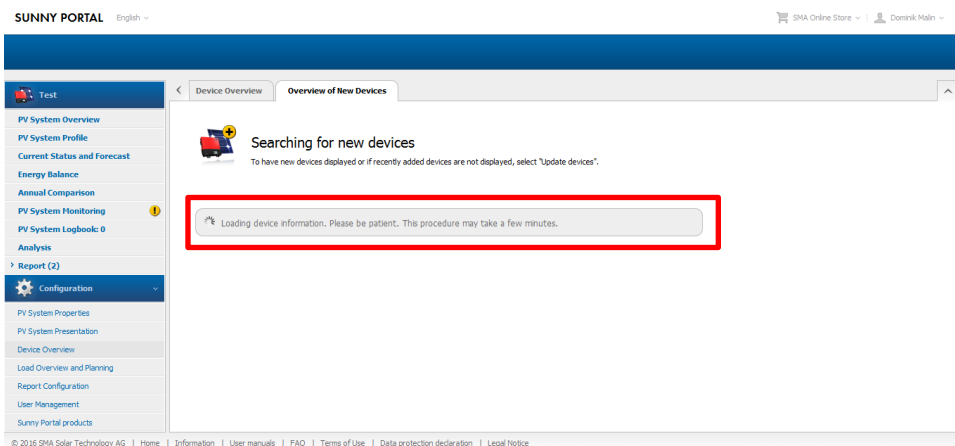
Searching for and adding my-PV device in the SHM

Update the list under – Configuration – Device overview – Overview of New Devices – “Refresh devices”.

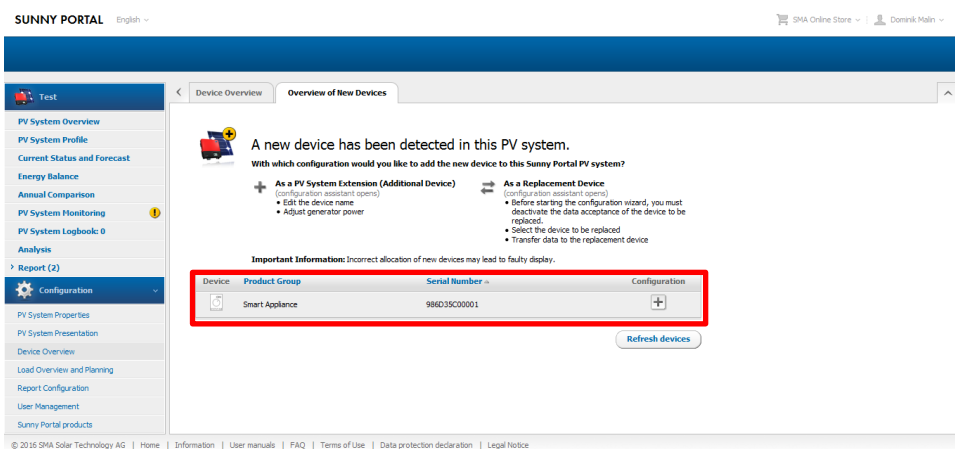
This process may take several minutes.



Admin rights are required for this setting!



my-PV device will appear as a “Smart Appliance” together with its MAC-address - click “+” to configure.



Configuration - Step 1

Product type will be used automatically in combination with the last three characters of the MAC address as a device name. The MAC address can also be seen on the type plate.

1 2 3
Device Name Device Characteristics Summary

Smart Appliance - PV System Extension



Serial Number: 986035C00001

Enter the desired name of the device. You can also select and edit one of the suggestions.

Device Name*:

Insert Suggestion:

Use product name --> AC ELWA-E
 Use serial number --> 986035C00001
 Product name + serial number --> AC ELWA-E 001

* Required field

[Back](#) [Cancel](#) [Next](#)

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Configuration - Step 2

In order for my-PV to simply make use of surplus energy that can no longer be used by other loads, my-PV recommends the following settings:

- Set the priority of the load to a very low
- Switch on the load depending on the proportion of PV energy
- Move the “Optional energy demand” slide as required

1 2 3
Device Name Device Characteristics Summary

Smart Appliance - PV System Extension



Serial Number: 986035C00001

Priority of the load:

Optional energy demand: Load will be switched on depending on:

☒ Proportion of the PV energy
☐ Maximum permitted energy costs

External energy supply: 0 %
 PV power generation: 100 %



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Configuration - Step 3

These settings are displayed once more for checking.

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1

2

3

Device NameDevice CharacteristicsSummary

Smart Appliance - PV System Extension



Serial Number: 986D35C00001

BackCancel

If the data is correct, select "Finish".

Device Name:	AC ELWA-E 001
Priority of the load:	very low
Load will be switched on depending on:	Proportion of the PV energy
External energy supply:	0 %
PV power generation:	100 %

Finish

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Click the “Finish” button to complete the addition of the new system extension. This is confirmed with a message.

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Test

PV System Overview

PV System Profile

Current Status and Forecast

Energy Balance

Load Balance and Control

Renewal Components

PV System Monitoring

PV System Logbooks & Reports

Report (2)

Configuration

PV System Properties

PV System Presentation

Device Overview

Load Overview and Planning

Report Configuration

User Management

Sunny Portal products

Device OverviewOverview of New Devices

Searching for new devices

To have new devices displayed or if recently added devices are not displayed, select "Update device".

Device	Product Group	Serial Number	Configuration
No devices found.			

Update devices

PV System Extension

OK

Device "986D35C00001" was successfully added as PV System Extension.

Close

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Once the configuration is complete, my-PV device will appear in the menu item – Load overview and planning.

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Test

- PV System Overview
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- Load Balance and Control
- Annual Comparison
- PV System Monitoring
- PV System Logbook: 0
- Analysis
- Report (2)
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 - PV System Properties
 - PV System Presentation
 - Device Overview
 - Load Overview and Planning
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 - Sunny Portal products

Load Overview

The following loads are configured for use with Sunny Home Manager. If you would like to add additional loads, select [Add loads].

Active loads All loads

Load	Type of load	Status	Configuration
AC ELWA-E 001	Direct communication		

1 to 1 of 1 entries

First page Previous page Next page Last page

Load planning

Time periods are configured for the following loads. Show time periods when a load must run (dark bar) or can run (light bar).

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
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The load characteristics of the new “Smart Appliance” can be displayed again at any time.

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Load Overview and Planning

AC ELWA-E 001

Load characteristics

Data Collection: ☒ Active

Name of Load: AC ELWA-E 001

Product Group: AC ELWA-E

Serial Number: 986035C00001

Power Consumption: 3000 W

Priority of the load: low high

Optional energy demand: Load will be switched on depending on:

☒ Proportion of the PV energy ☐ Maximum permitted energy costs

External energy supply: 0 %
PV power generation: 100 %

Load icon:

Load color:

Save Cancel Delete Upload load icon

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⚠ In the SHM my-PV are not managed via time windows as is usually the case with wireless sockets for example!

⚠ Periods in which hot water securing must be boosted are specified in my-PV device settings directly. (see respective operating instructions on www.my-pv.com)

 Bear in mind the optimization target settings within the SHM!

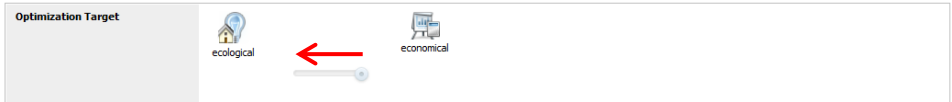
The factory setting of the SHM for the payment settings has an optimisation target of “economical”. In this case, my-PV recommends changing the optimisation target to “ecological”! Readjust this under – Configuration – PV system properties - Parameters.

Optimization Target

The optimization target indicates whether the Sunny Home Manager should prioritize ecological or economical factors for load management.

If you select “ecological” as the optimization target, the Sunny Home Manager calculates the solution which uses the greatest self-consumption. Greater self-consumption conserves the environment because there is no energy loss caused by the transport of current through the power distribution grid.

If you select the “economical” optimization target, the Sunny Home Manager calculates the most financially rewarding control of the loads, taking into consideration the feed-in and self-consumption tariffs. In certain cases, it may be more economical to feed the PV electricity into the power distribution grid and to operate the individual loads at night using electricity purchased from the grid.



my-PV with SHM and battery (ESS)

my-PV recommends prioritising the use of excess energy for charging the battery. Only once the battery is fully charged my-PV should start heating. This is achieved by making the following setting:

- Activate “Storage management via the Home Manager”
- Activate “Charging of the battery prior to optional loads”

Device Overview **Device:** [REDACTED] Parameters

Device Characteristics

Device Class:	Sunny Home Manager
Product Group:	 Sunny Home Manager 2.0
Serial Number:	[REDACTED]
Manufacturer:	SMA Solar Technology AG
Device Name:	Home Manager [REDACTED]
Description:	
Data Request Interval:	automatic
Time Zone:	(UTC+01:00) Amsterdam, Berlin, Bern, Niestetal, Rome, Stockholm
PV System Password:	*****
Automatic updates:	☒ Sunny Home Manager ☒ PV system devices

SMA SMART HOME Settings

EEBUS protocol:	☒
Storage management via the Home Manager:	☒
Charging of battery prior to optional loads:	☒

After battery charging is complete, the my-PV device is only used if no other consumer has a higher priority.

 If the excess PV power is greater than the maximum charging capacity of the battery, generation of heat can simultaneously happen during battery charge!

Control 12 devices with the SHM

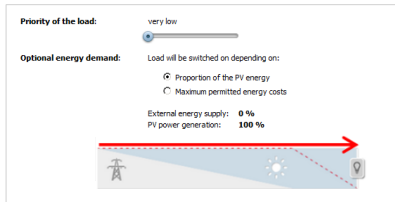


The adaptation of the internal multi-settings for the operation of several devices is **not required** when the control type is "SMA Home Manager"!

Since the "SMA Home Manager" control type actively controls load such as those from my-PV, it is not necessary to configure one device as a master and the others as slaves. All my-PV devices continue to carry the factory pre-set device number 1.

Settings for systems with zero feed-in

For systems with zero export to the power-grid the settings have to be made as follows.



Subject to change.

MYPV

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