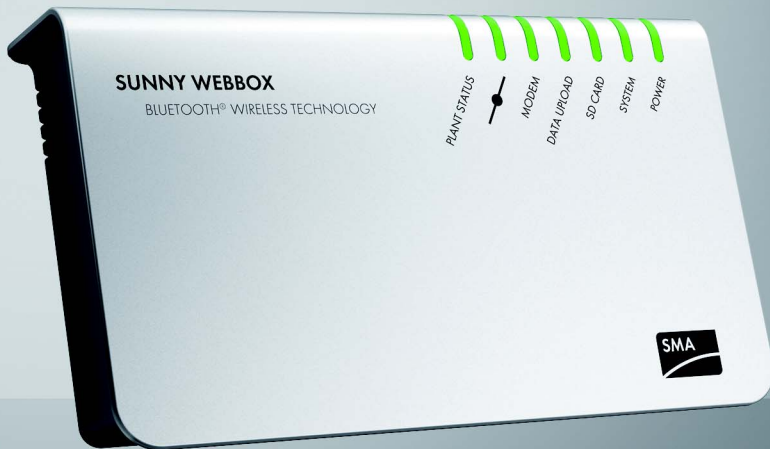




System Monitoring
SUNNY WEBBOX with *Bluetooth*[®] Wireless Technology
User Manual



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IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

This manual contains important instructions for Sunny WebBox with *Bluetooth*[®] plant monitoring unit, that must be followed during installation and maintenance of the plant monitoring unit.

The Sunny WebBox with *Bluetooth*[®] is designed and tested according to international safety requirements, but as with all electrical and electronic equipment, certain precautions must be observed when installing and/or operating the Sunny WebBox with *Bluetooth*[®]. To reduce the risk of personal injury and to ensure the safe installation and operation of the Sunny WebBox with *Bluetooth*[®], you must carefully read and follow all instructions, cautions and warnings in this user manual.

Warnings in this document

A warning describes a hazard to equipment or personnel. It calls attention to a procedure or practice, which, if not correctly performed or adhered to, could result in damage to or destruction of part or all of the SMA equipment and/or other equipment connected to the SMA equipment or personal injury.



DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

Other Symbols in this document

In addition to the safety and hazard symbols described on the previous pages, the following symbol is also used in this user manual:



Information

This symbol accompanies notes that call attention to supplementary information that you must know and use to ensure optimal operation of the system.

General Warnings



General Warnings

All electrical installations must be done in accordance with the local and *National Electrical Code*® ANSI/NFPA 70. For installation in Canada the installations must be done in accordance with applicable Canadian standards

The Sunny WebBox with *Bluetooth*® contains no user-serviceable parts except for the fans on the bottom of the enclosure and the filters behind the fans as well as the handle covers on the sides of the unit. For all repair and maintenance, always return the unit to an authorized SMA Service Center.

Before installing or using the Sunny WebBox with *Bluetooth*®, read all of the instructions, cautions, and warnings on the Sunny WebBox with *Bluetooth*® in this user manual.

Wiring of the Sunny WebBox with *Bluetooth*® must be made by qualified personnel only.

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1 Notes on this Manual

This manual contains instructions for operating the Sunny Boy WebBox. Keep this manual in a convenient place for future reference. This manual does not contain any detailed information on the connected devices. Detailed information on the devices connected is provided in the manuals for the devices.

1.1 Validity

This user manual is valid for Sunny WebBox with *Bluetooth* from hardware version A1 and from firmware version 1.1.

1.2 Additional Information

Additional information about SMA *Bluetooth* Wireless Technology can be found in the download area at www.SMA-America.com.

Among other things, the download area contains the following information products:

- Certificates and approvals for the Sunny WebBox with *Bluetooth*.

Information on setting up a local FTP server for automatic reception of plant data via the FTP push function of the Sunny WebBox in the Technical Information "Configuring a Local FTP Server".

1.3 Nomenclature

In this document SMA America Production, LLC is referred to in the following as SMA.

In this document the Sunny WebBox with *Bluetooth* is referred to in the following as Sunny WebBox.

In this manual, the term photovoltaic plant is abbreviated as PV plant.

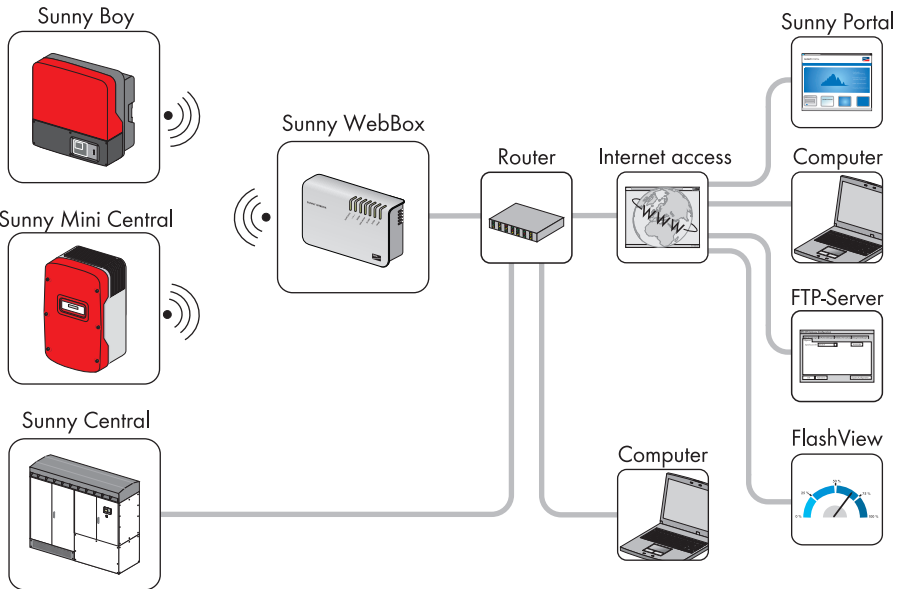
Formatting	Relevance
[Save]	Buttons are displayed in square brackets [].
"Menu1"	Menu items are displayed in quotation marks.
"Menu1 > Menu2"	Menu paths are given in quotation marks. The angle bracket > separates individual menus.
<i>Example:</i>	Examples are represented in italics.

2 The Sunny WebBox with Bluetooth

As the central communication interface, the Sunny WebBox with *Bluetooth* creates the connection between the devices of the the PV plant and its operator. Additionally, the Sunny WebBox with *Bluetooth* collects and documents all data from the connected SMA *Bluetooth* devices, thus permitting interruption-free monitoring.

Via the comprehensive functions of the Sunny WebBox with *Bluetooth* you can amongst other things automatically send the collected data of the PV plant to the Sunny Portal internet portal for example or to a freely selectable FTP server for subsequent processing or present your plant data via the Flashview computer software.

For installers the Sunny WebBox with *Bluetooth* is a powerful tool for configuring individual devices or entire device classes of the PV plant and carrying out remote diagnostics. The Sunny WebBox with *Bluetooth* enables early recognition of operational faults thus helping to optimize the yield of the PV plant.



2.1 Function Overview

The most important functions of the Sunny WebBox with *Bluetooth* Wireless Technology at a glance:

Plant communication

- Wireless control of the PV plant with *Bluetooth* Wireless Technology

External system communication

- Ethernet network 10/100 MBit

Integrated web server

- Quick overview of the current status of the PV plant
- Graphic display of the most important plant data
- Setting of individual devices or an entire device class
- Setting of SMA Grid Guard parameters
- Simple diagnostics thanks to the display of device events
- Secure data transfer thanks to a new password concept

PV plant data management

- Display plant data from the PV plant via the user interface
- Save plant data from the PV plant on an internal memory
- Save plant data from the PV plant to an optional SD card
- Automatically send system plant from the PV plant to the Sunny Portal
- Call up plant data via the internal FTP server
- Load plant data from the PV plant to an external FTP server via the FTP Push function
- Plant data in CSV or XML format

Service Functions

- Firmware update via the internet
- Time synchronization via the internet
- Restoration of the factory settings

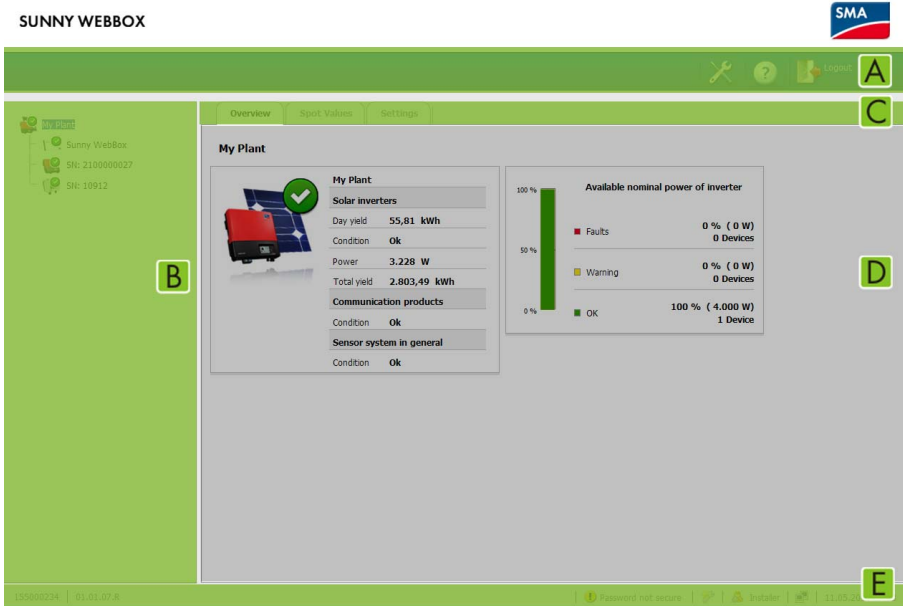
2.2 Information on the operation of the Sunny WebBox

- The Sunny WebBox user interface needs JavaScript in order to be able to correctly configure and display the functions and content of the Sunny WebBox. Activate JavaScript in the Web browser. If necessary, refer to the help section in your web browser.
- The save procedure for parameters can take up to 30 seconds. Do not disconnect the Sunny WebBox with *Bluetooth* from the electricity supply during the save procedure. Otherwise data can be lost.

3 Sunny WebBox with *Bluetooth* Basics

3.1 User interface

The user interface permits quick access to all important information about the PV plant and its devices.






Position	Description	Relevance
A	Icon Bar	The icon bar gives you quick access to the main functions of the Sunny WebBox.
B	Plant tree	In the plant tree, the Sunny WebBox represents all devices in a PV plant in a tree structure.
C	Device menu	The device menu enables you to retrieve information of selected devices. Furthermore, you can configure these devices.
D	Contents section	The contents section shows the actual contents. The selection in the device menu determines the displayed contents.

Position	Description	Relevance
E	Status bar	<p>The status bar displays the current status of the Sunny WebBox and includes the following contents:</p> <ul style="list-style-type: none"> • serial number • software version <p>After logging on to the Sunny WebBox, the status bar additionally contains:</p> <ul style="list-style-type: none"> • information on the password status • SMA Grid Guard (only installers) • current user group • connection status to the PV plant • current date and time

3.1.1 Icon Bar

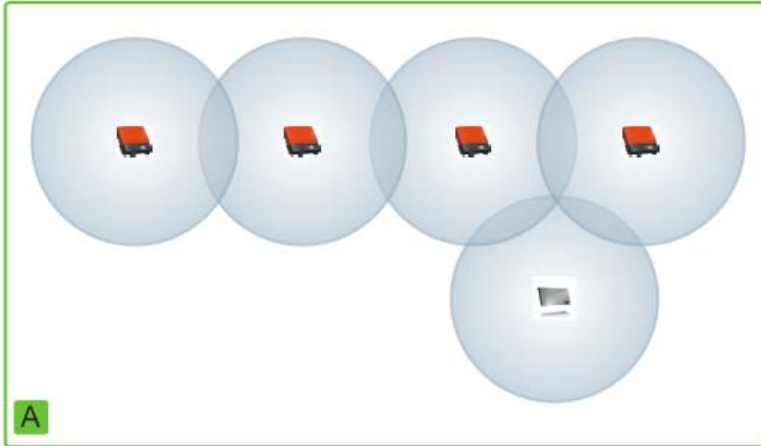
The icon bar gives you quick access to the main functions of the Sunny WebBox.

Symbol	Relevance
	The "Settings" button opens the Sunny WebBox settings. You can also adjust the Sunny WebBox settings via the plant tree "Sunny WebBox" "Settings".
	The "Help" button opens the Sunny WebBox help section.
	The user can log out of the Sunny WebBox user interface via the "Logout" button.

3.1.2 Plant tree

From the plant communication perspective, a PV plant is made up of several devices which are connected to each other via the same communication type (e.g. SMA Bluetooth).

View of a Bluetooth Plant

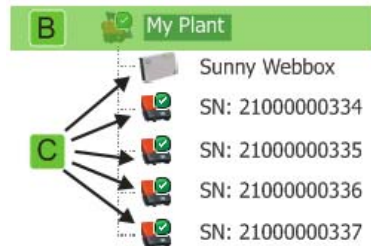


The physical structure of the plant (A) is represented by means of the plant tree in the Sunny WebBox. In addition, the plant tree displays all devices of a plant (including the Sunny WebBox) underneath the plant (B). From the plant communication perspective, all devices with the same NetID and the same installer password belong to one plant. The Sunny WebBox detects all devices with the same NetID and the same installer password and summarizes these devices in one plant.

The plant tree in the Sunny WebBox

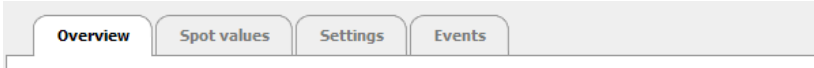
In general, a distinction is made between the Plant View (B) and the Device View (C).

- See Section 5.1 "Plant View" (page 31)
- See Section 5.2 "Device View" (page 32)



3.1.3 Device menu

The device menu shows the settings options and instantaneous values of a given device. You must select the device in the plant tree in advance. The menu items change according to the device selected.



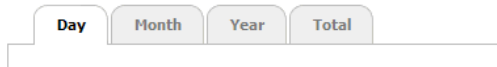
Tabs	Relevance
Overview	The overview page provides information about the devices or systems selected in the plant tree. Here you will find an overview of the most important device data as well as the actual status display.
Instantaneous values	The instantaneous values provide current data on the selected device depending on the particular user group.
Settings	Depending on your user group, you can use the settings option to look at and adjust various parameters.
Events	The "Events" page displays the events that have occurred in a device. It depends on the user group of the registered user belongs which event types the Sunny WebBox displays.

3.1.4 Overview

The page "Overview" displays the key data of the entire PV plant or of an individual device.

Device View

When a device is selected in the plant tree, the yield and output values of that device are also displayed in diagrams on the overview page. There are 4 diagrams that can be accessed via the following tabs:



Tabs	Relevance
Day	Displays the device output during the course of a day.
Month	Displays the daily yields of a particular month.
Year	Displays the monthly yields of a particular year.
Total	Displays the total yield of the device over the last 10 years.

Click the mouse on a point of the graph to call up a display. The display shows the precise value at that particular point as well as the time and date.

Scroll down to the next time period using the arrows. Use the calendar symbol to directly select a time period.

Plant View

If a plant is selected in the plant tree, the overview page displays the following data for the entire PV plant:

- Data of all inverters in the PV plant:
 - Daily yield: yield achieved so far on this day
 - Condition: current operative condition of the plant (OK, fault, warning)
 - Power: output achieved so far that day
 - Total yield: total yield achieved so far
- Data of the communication products in the PV plant:
 - Condition: current operative condition of the communication products (OK, fault, warning)
- Available nominal power of the inverters

3.1.5 Instantaneous values

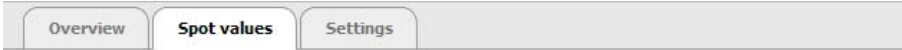
The “instantaneous values” page displays all values of the device or plant selected in the plant tree. It depends on the user group of the registered user which values the Sunny WebBox displays. All values are collected into groups (parameter groups) and subgroups.

Device View

If you have selected a device in the plant tree, the “instantaneous values” page displays the values for that particular device.

Plant view

If you have selected the plant in the plant tree, the “instantaneous values” page displays the values for complete device classes. When you click on the parameter group, the device classes are displayed separately (e.g., solar inverters and communication products).



My Plant » Sunny WebBox

Status (Solar Inverters)

▼ Operation

Derating	No Derating
Grid relay	Closed
Condition	OK

▶ Event

▶ Device status

Status (Communication Products)

▼ Operation

Condition	OK
-----------	----

Certain values from the individual devices in a device class are combined (e.g., total power (A)).

AC Side (Solar Inverters)

▼ Grid measurement

▶ Grid frequency	⊘ 49.98 Hz
▶ Power	⌘ 23.19 kW A

Depending on the type of value, a meaningful aggregate for the device class is displayed:

Symbol	Relevance
Σ	Total
⊘	Average value
e.g. 154 °F ... 250 °F	Smallest and greatest value

If you open the summarized values, you can see further information on the value.

AC Side (Solar Inverters)		
Grid measurement		
Grid frequency	49.98 Hz	
Power		
Minimum	2319 W	B
Maximum	2319 W	C
Sum	23.19 kW	D
Average	2319 W	E
Weight	10	F

Position	Relevance
B	Lowest power value of the 10 devices
C	Greatest power value of the 10 devices
D	Sum of power values of the 10 devices
E	Mean power for the 10 devices
F	Number of devices in the device class

3.1.6 Settings

The device menu “Settings” displays all parameters of the device or plant selected in the plant tree. For numerical values the permissible parameter limits are displayed in brackets after the value. It depends on the user group of the registered user belongs which parameters the Sunny WebBox displays. The Sunny WebBox summarizes all parameters in groups (parameter groups) and subgroups.

Device View

When a device is selected in the plant tree, you can modify the parameters of that device on the “Settings” page.

Plant view

If you have selected the plant in the plant tree, you can modify the parameters for the entire device class on the "Settings" page. The Sunny WebBox then sets all devices in the device class to the new parameter value. The Sunny WebBox separately displays the device classes, after you have clicked on the parameter groups (e.g. PV inverter and communication products).

Overview
Spot Values
Settings

My Plant

▼ Type label (Solar inverters)

▼ Type label

Communication version	1.1.11.9
Device name	SN: 2100000027
Device class	Solar inverters
Device type	SB 4000TL-20
Software package	01.01.00.R

[Edit](#)

▼ Type label (Communication products)

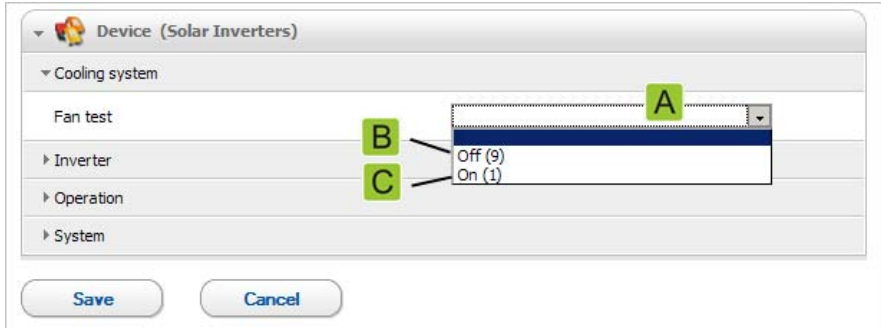
▼ Type label

Communication version	1.0.0.0
Device name	Sunny WebBox
Device class	Communication products
Device type	WebBox-20
Software package	01.01.07.R

[Edit](#)

If different values are set for devices in the same device class, the Sunny WebBox displays them in editing mode with an empty field (A).

The different options are shown in selection menus. The number of devices set to each option is shown in brackets. See (B) and (C). By choosing an option and then saving, all devices in this device class are set to the same value. If the Sunny WebBox displays an "*", this parameter is not available for all of the devices.



In text fields the Sunny WebBox displays mutual leading characters. Different characters are supplemented with "...".

3.1.7 Events



The Sunny WebBox can display its own events and the events of individual devices. The Sunny WebBox retrieves the event list directly from the devices.



Position	Relevance
A	Filter for event categories
B	Filter for the time period of the events displayed
C	Priority of event
D	Type of event
E	Event in clear text and event number in brackets
F	Group of parameters involved (parameter group)
G	Date on which the event occurred
H	Time at which the event occurred

Priority of events

The event priorities are as follows:

Symbol	Relevance
	This type of event can only be remedied through intervention by the installer at the device. Please contact your installer with the device serial number and the event number.
	Please contact your installer with the device serial number and the event number.

Types of event










There are 3 different types of events which the Sunny WebBox displays by symbols:

- Information
- Warning
- Problem

Symbols and meaning of event types

Events can have 3 different statuses:

- Incoming: the event is occurring.
- In progress: the event has existed for some time and could not yet be automatically remedied.
- Outgoing: the event has come to an end.

Symbol	Relevance
	Problem
	Error incoming
	Error outgoing
	Warning
	Warning in progress
	Warning outgoing
	Information
	Information incoming
	Information outgoing


3.2 Security- and password concept

3.2.1 User groups

As a rule, SMA distinguishes between two user groups: **user** and **installer**. Installers can also undertake additional settings on devices after entering the SMA Grid Guard code. The user groups have the following rights:

User group	Right
User	Users of this user group can read all information, such as instantaneous values and parameter settings. The user cannot modify any settings that affect functionality. The user can freely select the plant password for the "User" user group.
Installer	In addition to the rights available to users, the user of this user group may also set or change plant parameters that affect functionality. The installer can also reset the plant password of the user. The user can also undertake additional settings on the devices after having entered the SMA Grid Guard code.
Installer with SMA Grid Guard rights	The installer can change the SMA Grid Guard parameters of the devices.

3.2.2 Plant password

The plant password for the respective user group is the same for all devices in a plant. After logging in with the plant password (**user/installer**), you can simultaneously configure more than one device in your plant. If the device password is not the same as the plant password, for example in case of a new device in an existing plant, the Sunny WebBox displays the device with a lock () in the plant tree.



Unauthorized access to your PV plant

The plant password protects your plant from unauthorized access to the plant devices.

- After initial login to a new plant, change the passwords of both user groups (User/Installer). Restart the Sunny WebBox after the change.



Plant password at delivery

All devices are delivered with the user password: 0000 and the installer password: 1111.

3.2.3 Access security of the Sunny WebBox with *Bluetooth*

Each user group is protected by a freely selectable password. Passwords are transmitted in encrypted form. After 4 incorrect password entries access to the Sunny WebBox is blocked for 15 minutes. After this time you can log in again.

Protect your PV plant from unauthorized access. Take suitable protective measures:

- Set up safe passwords (see section 3.2.4 "Password Quality" (page 25)).
- Change your passwords at regular intervals.
- Use different passwords for different user groups.
- Install a firewall in Ethernet networks.
- Close unnecessary ports in Ethernet networks.

3.2.4 Password Quality

In order to increase the security of your password, please note the following properties when selecting a password:

- Use passwords with a minimum length of 8 characters. The longer the password, the more secure it is.
- Use a combination of upper and lower case letters, special characters and numbers.
- Do not use names or terms from dictionaries (for example: "Dog", "Cat", "Mouse", ...).
- Do not use data related to your person as passwords (for example names of persons or pets, personal- or identification numbers, car license plates, ...).
- Do not repeat names or terms (for example "househouse", "carcar", ...).
- Do not use number and letter combinations which are consecutive on a keyboard (for example "12345", "qwerty", ...).

3.2.5 SMA Grid Guard

SMA Grid Guard is a security concept for country-specific settings in the inverter, which determine the network behavior within a power distribution grid. These settings (Grid Guard parameter) are preset in the devices. You can only change these settings with the SMA Grid Guard password. In order to change SMA Grid Guard parameters, you must be logged in as an installer and you will need your personal SMA Grid Guard password. You can obtain your personal SMA Grid Guard password from SMA. The application form for the personal access code is located in the download area at www.SMA-America.com, in the "Certificate" category for each inverter.

3.2.6 Password forgotten

If you have forgotten your plant password, you can unlock the devices of your PV plant by means of a Personal Unlocking Key (PUK). For every inverter and every Sunny WebBox there is 1 PUK for each of the two user groups ("user" and "installer").

Procedure:

1. Request PUKs for inverters and Sunny WebBox.
2. Unlock the inverters with the PUKs via the Sunny Explorer.
3. Unlock the Sunny WebBox with the PUK.

Requesting PUKs for inverters and Sunny WebBox

1. Download the application form for PUKs from the "Service" section at www.sma.de.
 2. Complete the application form and sign it.
 3. Send the application form to the SMA Serviceline:
 - Send the application form by e-mail (see section 11 "Contact" (page 73)).
 - or
 - Send the application form by fax (see section 11 "Contact" (page 73)).
 - or
 - Send the application form by mail (see section 11 "Contact" (page 73)).
- The SMA Serviceline checks the application and sends you the required PUKs.

Unlocking the inverter with PUK



Unlocking several inverters with PUK

Each PUK can only be used for 1 inverter and 1 user group.

- If you requested PUKs for several inverters, you have to log onto each device individually with the corresponding PUK.

1. Log onto the inverter with the PUK using Sunny Explorer (see Sunny Explorer user manual).
2. Define a new plant password (see Sunny Explorer user manual).

Unlocking the Sunny WebBox with PUK

1. Start the web browser, (e.g. Internet Explorer).
 2. Enter the IP address of the Sunny WebBox into the address bar and press enter.
 3. Select the user group in the "User" field for which the SMA Serviceline generated the PUK.
 4. Enter the PUK in the "password" field.
 5. Change the password of the Sunny WebBox (see section 6.1 "Changing the Sunny WebBox password" (page 36)). Use the plant password that you have defined before via the Sunny Explorer.
- The Sunny WebBox displays the inverters in the plant tree without padlock icon. You have access rights for all the inverters in the corresponding user group.

3.3 Symbols



Symbols for access rights

The Sunny WebBox displays the individual devices with a symbol for the access right in the plant tree. If the Sunny WebBox displays no symbol behind a device, you have access rights to the device.










Updating time in the plant tree

In the plant tree, updating the symbol for access rights (SMA Grid Guard symbol and lock symbol) can take up to 2 minutes.

Symbol	Relevance
	You do not have access to the device. The device password differs from the current plant password.
	You have access to parameters which are protected by the SMA Grid Guard password. In addition, the Sunny WebBox indicates parameters which are protected by SMA Grid Guard by this symbol.













Device symbols

The Sunny WebBox displays device symbols in the plant tree and on the device's overview page. Devices will have a specific status which the Sunny WebBox displays by means of a symbol.









Symbol	Relevance
	Plant
	Sunny WebBox
	Inverters
	Unknown inverter
	Unknown device
	Sunny SensorBox with SMA Power Injector with <i>Bluetooth</i>
	SMA <i>Bluetooth Repeater</i>

Group symbols for instantaneous values and settings

The Sunny WebBox uses group symbols for specific parameter groups.

Symbol	Relevance
	<p>Status</p> <p>General values that describe the status of the device. The Sunny WebBox does not list the status of other components in the device (e.g., modems).</p>
	<p>Type label</p> <p>All values that describe the device / the plant.</p>
	<p>Device</p> <p>Values which apply to the device directly and which do not fall into any of the special categories (e.g., DC side, AC side, plant communication, etc.).</p>
	<p>User Rights</p> <p>All values that affect the access protection for the device.</p>
	<p>DC page</p> <p>Values affecting the DC side of the device (e.g. PV modules).</p>
	<p>AC page</p> <p>Values affecting the grid side of the device.</p>
	<p>Grid monitoring</p> <p>Includes parameters that affect the grid and which in part are protected by the personal SMA Grid Guard password.</p>
	<p>Plant and Device Control</p> <p>Includes parameters for devices that must fulfill special requirements for feeding into the medium voltage level. The parameters are protected by the personal SMA Grid Guard password.</p>
	<p>Plant communication</p> <p>All values which define communication between communication devices and the plant.</p>
	<p>Data Recording</p> <p>All values that affect data recording for the device (storage location, storage intervals, storage format).</p>
	<p>Device components</p> <p>Includes parameters and measured values relating to the components of a device. This group is a kind of "expanded type label". For example, the Sunny WebBox files the version numbers of the system components here.</p>
	<p>Meteorology</p> <p>Includes all measured values of the connected sensors e.g. temperature, irradiation and wind speed.</p>

Other symbols

Symbol	Relevance
	<p>Hour glass</p> <p>The hour glass is displayed when values are being saved in a device.</p>
	<p>Average value</p> <p>The average number refers to an average value.</p>
	<p>Total</p> <p>The total number displays the summed values.</p>
	<p>Maximum</p> <p>Displays the maximum of a value.</p>
	<p>Minimum</p> <p>Displays the minimum of a value.</p>
	<p>Updating</p> <p>This symbol indicates that the Sunny WebBox is reading out data from the device.</p>
	<p>Alarm</p> <p>The alarm symbol indicates that values are more than 10 minutes old.</p>
	<p>Calendar function</p> <p>Opens a calendar for selecting a date, a start date, or an end date.</p>

4 Logging into and out of the Sunny WebBox

4.1 Logging into the Sunny WebBox



Unauthorized access to your PV plant

The plant password protects your plant from unauthorized access to the plant devices.

- After initial login to a new plant, change the passwords of both user groups (User/Installer). Restart the Sunny WebBox after the change.



Plant password at delivery

All devices are delivered with the user password: "0000" and the installer password: "1111".

1. Start web browser (e.g. Internet Explorer).
2. Enter the IP address of the Sunny WebBox into the address bar and press enter.
 - The Sunny WebBox login page opens.
 - If the page does not open, please read section 9.1 "General Troubleshooting for the Sunny WebBox" (page 64).

SUNNY WEBBOX | English



User	User
Password	
<input type="button" value="Login"/>	

3. Select a language.
4. In the "User" field select the user group under which you wish to log in.
5. In the "Password" field enter the password of the selected user group.
6. Select [Login].
 - The Sunny WebBox start page appears.

4.2 Logging out of the Sunny WebBox

1. Select "Logout" in the icon bar.







- The Sunny WebBox login page opens. You have successfully logged out.

5 Operation

5.1 Plant View

5.1.1 Plant Status

Symbol	Status	Relevance
	Neutral	The status of the plant is unknown and is currently being updated.
	OK	All plant devices are working as prescribed.
	Warning	At least one device in the plant is displaying the "Warning" status. No device is displaying the "Error" status.
	Problem	At least one device in the plant is displaying the "Error" status.

5.1.2 Setting Parameters for a Device Class

A device class refers to devices of the same type. You can configure all the devices in a device class simultaneously. It is not possible to configure different device classes at the same time. Save the changes made to one device class before processing another device class.

To configure all the devices in a device class, proceed as follows:

1. Select the plant in the plant tree.
2. Select "Settings" in the device menu.
 - The Sunny WebBox displays the parameter groups for the entire plant.
3. Select the parameter group that contains the parameter which is to be configured.
 - The Sunny WebBox lists the individual device classes. It may take a moment for all the data to be read from the devices.
4. Select [Edit] below the relevant device class.
5. Change the desired parameter for the entire device class.
6. Select [Save].
 - The Sunny WebBox applies the settings to all devices of the same device class.



Saving of data when parameters are adjusted

The Sunny WebBox displays the saving process by means of an hour glass. After the changes have been saved, the Sunny WebBox transmits the data to the device. The setting process can sometimes take several hours if the device (e.g. an inverter) is in night mode. During the starting process, the device transmits the data to its main memory and the Sunny WebBox does no longer display the hour glass.

- The parameters for a device class have been set.






5.1.3 Changing the System Name

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
 or
 Select "Settings" on the icon bar.
 2. Select the "Type Label > Type Label" parameter group.
 3. Select [Edit].
 4. Enter the desired plant name in the "Plant name" field.
 5. Select [Save].
- The plant name has been set.

5.2 Device View

5.2.1 Device Status

The device is in a specific status. The Sunny WebBox displays the status via the symbols in the plant tree and on the overview page of the device.

Symbol	Status	Relevance
	Neutral	The status of the device is currently being updated.
	OK	The device is operational and is working as prescribed.
	Warning	The device is not operating properly. It may be possible to automatically remedy the error.
	Problem	The device is in error condition. There is a problem with the device. Check the device.
	Communication error	The device can not communicate at present. This may happen at night, for example, when the inverter is not operating.

5.2.2 Setting the Device Parameters

You can configure a device via its parameters. Setting parameters for a device is dependent on the user group.

To change device parameters, proceed as follows:

1. Select the corresponding device in the plant tree.
2. Select "Settings" in the device menu.
 - The Sunny WebBox displays the existing parameter groups of the device.
3. Select the parameter group that contains the desired parameter.
 - Reading the values may take a moment because the Sunny WebBox queries the values directly from the device.
4. Select [Edit].
5. Change desired parameter.
6. Select [Save].



Saving of data when parameters are adjusted

The Sunny WebBox displays the saving process by means of an hour glass. After the changes have been saved, the Sunny WebBox transmits the data to the device. The setting process can sometimes take several hours if the device (e.g. an inverter) is in night mode. During the starting process, the device transmits the data to its main memory and the Sunny WebBox does no longer display the hour glass.

- The device parameter is set.

5.3 Adjusting the Device Password to the Plant Password

If the password of a device is different from the plant password, the Sunny WebBox displays the device with a lock in the plant tree. This may occur, for example, when a new device is added to an existing plant. To set the new device to the plant password, proceed as follows:

1. Log into the Sunny WebBox as "Installer".
 - The Sunny WebBox displays the new device with a lock in the plant tree.
2. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.

or

Select "Settings" on the icon bar.
3. Select the "User Rights > Access Control" parameter group.
4. Select [Edit].
5. Enter the password of the new device in the "Set installer password" field.
6. Confirm the password in the "Confirm password" field.
7. Enter the password of the new device in the appropriate user group field.
8. Confirm the password in the "Confirm password" field.

9. Select [Save].
 - The Sunny WebBox saves the password of the new device into all approved devices. All devices now have the same plant password.
10. Restart the Sunny WebBox via the user interface (see page 61).
11. Repeat the password setting process in order to transfer your previous plant password to all devices.
12. Select [Save].
13. Restart the Sunny WebBox via the user interface (see page 61).
 - The Sunny WebBox displays the device without a lock in the plant tree. The password of the new device matches plant password.

5.4 Determining the Sunny WebBox serial number

You can read off the serial number from the status bar of the user interface or alternatively via the parameter groups or the SD Card (see section 8.5 "Determining Current Settings of the Sunny WebBox via the SD Card" (page 63)).

Determining the Sunny WebBox serial number via the parameter group

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
 - or**
 - Select "Settings" on the icon bar.
2. Select the "Type Label > Type Label" parameter group.
 - Read off the Sunny WebBox serial number from the "Serial Number" field.

5.5 Determining the WAN IP address

You can determine the WAN (wide area network) IP address via the parameter group or the SD card (see section 8.5 "Determining Current Settings of the Sunny WebBox via the SD Card" (page 63)). The WAN IP address is the IP address to reach the Sunny WebBox via the internet.

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
 - or**
 - Select "Settings" on the icon bar.
2. Select the "External Communication > Nat" parameter group.
 - In the "WAN IP" field read off the WAN IP address.

5.6 Activating / Deactivating SMA Grid Guard mode



Country-specific Settings in the inverter

SMA Grid Guard parameters may only be changed with the express authorization of the grid operator. Unauthorized changes to the SMA Grid Guard parameters void operating license of the respective device.




Updating time in the plant tree

In the plant tree, updating the symbol for access rights (SMA Grid Guard symbol and lock symbol) can take up to 2 minutes.

Activating SMA Grid Guard mode

In order to change SMA Grid Guard parameters in devices you must enter your SMA Grid Guard password.

1. Log in as "Installer".
2. Select the SMA Grid Guard symbol  in the status bar of the Sunny WebBox user interface.
 - This opens the SMA Grid Guard dialog.

SMA Grid Guard

You can only change the SMA Grid Guard parameters with your personal access code. Every change to SMA Grid Guard parameters has to be approved by the responsible grid operator.

Individual access code


OK

Cancel

3. Enter your password in the "Individual access code" field. You can obtain the password from SMA (see page 25).
4. Select [OK].
 - The SMA Grid Guard code is set. You can now process all devices which are indicated with the SMA Grid Guard symbol.

Deactivating SMA Grid Guard mode

To end the SMA Grid Guard mode proceed as follows:

1. Select the SMA Grid Guard symbol  in the status bar of the Sunny WebBox user interface.
 - This opens the SMA Grid Guard dialog.
2. Enter the blocking code "54321" in the "Individual access code" field.
3. Select [OK].
 - The SMA Grid Guard code is deactivated. Check whether the SMA Grid Guard mode has been deactivated for all inverters. The blocking code is not supported by inverters with SMA *Bluetooth Piggy-Back*.
 - If the SMA Grid Guard mode remains active, log out of the Sunny WebBox user interface and log back in again after 2 minutes (see section 4 "Logging into and out of the Sunny WebBox" (page 30)). The SMA Grid Guard code is then deactivated.

6 Configuring the Sunny WebBox

6.1 Changing the Sunny WebBox password



Additional rights for the installer

If you are logged in as installer, you can set or change function-sensitive plant parameters in addition to the rights of the user. In addition, the "Installer" user group has the option of resetting the user's plant password and can change SMA Grid Guard parameters.



Password for the internal FTP server

The password set here is also valid for access to the internal FTP server.

By setting the Sunny WebBox password, all devices which are displayed without a lock in the plant tree will be set with the Sunny WebBox password.

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
or
Select "Settings" on the icon bar.
 2. Select the "User Rights > Access Control" parameter group.
 3. Select [Edit].
 4. Enter a secure password in the appropriate user group field. The password can be a maximum of 12 characters. The following special characters are permitted: "?", "_", "!", "-". Take note of the quality of your password (see section 3.2.4 "Password Quality" (page 25)).
 5. Confirm the password in each case in the "Confirm Password" field.
 6. Select [Save].
- All devices will be set with the Sunny WebBox password.

6.2 Plant time

6.2.1 Information on the Plant time

The date and time of a PV plant is indicated as plant time.

During operation of your *Bluetooth* PV plant with the Sunny WebBox all connected *Bluetooth* devices adopt the plant time of the Sunny WebBox.

If further communications products (e.g. Sunny Beam with *Bluetooth* or Sunny Explorer) are added to the PV plant, the communications products added automatically adopt the current plant time of the PV plant.

If you change the plant time, all inverters immediately adopt the new plant time. Additional communication products in the plant apply the plant time only after some time (7 hours max. later).

The plant time can be adjusted manually in the Sunny WebBox or synchronized via the internet. The "Automatic Time Synchronization" of the Sunny WebBox aligns the date and time with Sunny Portal on a daily basis. Registration in Sunny Portal is not necessary.

NOTICE**Possible loss of data by changing the plant time.**

Take note that a time adjustment can have possible effects on the data already recorded. If you reset the time or the date, for example, the Sunny WebBox might overwrite recorded data. Only change the plant time when it is necessary.

6.2.2 Setting Date and Time



Automatic time synchronization

You can also synchronize the plant time automatically via the internet (see section 6.2.4 "Activating / Deactivating automatic time synchronization" (page 38)).

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
or
Select "Settings" on the icon bar.
 2. Select the "Device > Time settings" parameter group.
 3. Select [Edit].
 4. In the "Standard/Daylight Saving Time conversion on" field select "Yes" in order to activate the automatic adjustment between Summer and Winter Time. (Status upon delivery)
or
In the "Standard/Daylight Saving Time conversion on" field select "No" in order to deactivate the automatic adjustment between Summer and Winter Time. The date and time are to be set manually in the event of a change.
 5. In the "Set plant time" field, set the current date and time of the PV plant.
 6. Select the time zone in which the system is located in the "Time zone" field (Delivery status: "(UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna").
 7. Select [Save].
- Data and time are set.

6.2.3 Manually synchronizing the date and time with Sunny Portal

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
or
Select "Settings" on the icon bar.
 2. Select the "Device > Time settings" parameter group.
 3. Select [Edit].
 4. In the "Synchronize time with portal" field select "Execute" in order to synchronize the date and time with Sunny Portal.
- The Sunny WebBox synchronizes the date and time with Sunny Portal. The synchronization was successful if the Sunny WebBox displays the time in the "Set plant time" field and "—" in the "Synchronize Time with Portal" field.

6.2.4 Activating / Deactivating automatic time synchronization

Activating automatic time synchronization

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
or
Select "Settings" on the icon bar.
 2. Select the "Device > Time settings" parameter group.
 3. Select [Edit].
 4. In the "Automatic Time Synchronization" field select "Yes" in order to synchronize the date and time with Sunny Portal.
- The automatic time synchronization is activated.

Deactivating automatic time synchronization

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
or
Select "Settings" on the icon bar.
 2. Select the "Device > Time settings" parameter group.
 3. Select [Edit].
 4. In the "Time Synchronization Active" field select "No" in order to manually set the date and time (see section 6.2.2 "Setting Date and Time" (page 37)) (status on delivery).
- The automatic time synchronization is deactivated.

6.3 Country Settings

6.3.1 Setting the date format



Effect on existing data from the PV plant.

Changes to the format have an effect on all future data exports, e.g. data on the SD card or data on the internal FTP server.

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
or
Select "Settings" on the icon bar.
2. Select the "Device > Country settings" parameter group.
3. Select [Edit].
4. In the "Date format" field select the desired data format ("DD" = day, "MM" = month, "YYYY" = year) (Status on delivery "DD.MM.YYYY").
5. Select [Save].
- The date format is set.

6.3.2 Setting the Language

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
or
Select "Settings" on the icon bar.
2. Select the "Device > Country settings" parameter group.
3. Select [Edit].
4. Select the desired language in the "Language" field.
5. Select [Save].
- The language is set.

6.3.3 Setting the Number Format

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
or
Select "Settings" on the icon bar.
2. Select the "Device > Country settings" parameter group.
3. Select [Edit].
4. In the "Number format" field, select the desired number format. (Status upon delivery: "123.456,0")
5. Select [Save].
- The number format is set.

6.3.4 Setting the Time format



Effect on existing data from the PV plant.

Changes to the format have an effect on all future data exports, e.g. data on the SD card or data on the internal FTP server.

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
or
Select "Settings" on the icon bar.
 2. Select the "Device > Country settings" parameter group.
 3. Select [Edit].
 4. In the "Time format" field select the desired time format ("hh" = 12 hour format, "HH" = 24 hour format, "mm" = minutes, "ss" = seconds) (Status on delivery: "HH:mm").
 5. Select [Save].
- The time format is set.

6.3.5 Setting the Temperature Unit

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
or
Select "Settings" on the icon bar.
 2. Select the "Device > Country settings" parameter group.
 3. Select [Edit].
 4. Select the desired unit of temperature in the "Unit of temperature" field.
(Status upon delivery: "Celsius")
 5. Select [Save].
- The unit of temperature has been set.

6.4 Changing the Sunny WebBox device name

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
or
Select "Settings" on the icon bar.
 2. Select the "Type Label > Type Label" parameter group.
 3. Select [Edit].
 4. Enter the desired device name in the "Device name" field.
 5. Select [Save].
- The Sunny WebBox device name is changed.

6.5 Ethernet Network

6.5.1 Information on Network Settings



Changing extended network settings

Do not change any device network settings if you are not clear on the effects of the change. Changes to values could lead to the existing network not functioning or only partially functioning. If you have any questions, contact your network administrator.



Sunny WebBox Assistant

You can use the Sunny WebBox Assistant for commissioning the Sunny WebBox and for integration into a network. You can download the Sunny WebBox Assistant at www.SMA-America.com.

You can assign static network settings to the Sunny WebBox or obtain these dynamically via a DHCP server. Additionally, it is possible to use a proxy server for the internet connection.

If you wish to make the Sunny WebBox available on the internet, to allow, for example, direct access to the Sunny WebBox via the Sunny Portal, you must configure a Port rerouting in your router. Here it may be necessary to align the HTTP port and the NAT port.

6.5.2 Applying Static Network Settings to the Sunny WebBox

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
or
Select "Settings" on the icon bar.
 2. Select the "External Communication > Ethernet" parameter group.
 3. Select [Edit].
 4. In the "DNS server IP" field enter the IP address of the DNS server (Domain Name System Server). Usually, this is the IP address of the router.
 5. Enter the Gateway IP address of your network into the "Gateway IP" field. Usually, this is the IP address of the router.
 6. In the "IP Address" field enter the static IP address, under which the Sunny WebBox is to be reachable in the local network (see section 10.7 "Allocating IP addresses in a local network" (page 72)).
 7. In the "Subnet mask" field, enter the subnet mask of your network. Normally you can find this information in the router manual.
 8. Select [Save].
- The local network settings are applied to the Sunny WebBox.

6.5.3 Activating/Deactivating DHCP

The Sunny WebBox can obtain its network settings via a DHCP server (Dynamic Host Configuration Protocol server). During the starting process, the Sunny WebBox automatically obtains the IP address, subnet mask, gateway and DNS server from the DHCP server. In order to establish the Sunny WebBox in your network, use the Sunny WebBox Assistant.

Activating DHCP

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
Select "Settings" on the icon bar.
 2. Select the "External Communication > Ethernet" parameter group.
 3. Select [Edit].
 4. Under "DHCP" select "Yes" in the "Activated" field.
 5. Select [Save].
- The Sunny WebBox obtains the network settings automatically via the DHCP server.

Deactivating DHCP

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
Select "Settings" on the icon bar.
2. Select the "External Communication > Ethernet" parameter group.
3. Select [Edit].
4. Under "DHCP" select "No" in the "Activated" field in order to assign the network settings statically (see section 6.5.2 "Applying Static Network Settings to the Sunny WebBox" (page 41)) (Status on delivery).
5. Select [Save].
6. The network settings are assigned manually.

6.5.4 Proxy Server

If there is a proxy server in your network, enter the proxy settings here. The Sunny WebBox uses the proxy settings for the connection to the Sunny Portal and for firmware updates.

Using the Proxy Server

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
Select "Settings" on the icon bar.
 2. In the "Activated" field select "Yes" in order to use the proxy server.
 3. In the "Login" field enter the login name for the proxy server.
 4. In the "Port" field enter the network port under which the proxy server is available.
 5. In the "Password" field enter the password for the proxy server.
 6. Confirm the password entered in the "Confirm the password" field.
 7. In the "Server" field enter the proxy server IP address.
 8. Select [Save].
- The Sunny WebBox uses the proxy server.

Not Using the Proxy Server

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
Select "Settings" on the icon bar.
 2. In the "Activated" field select "No" in order not to use the proxy server.
 3. Select [Save].
- The Sunny WebBox uses no proxy server.

6.5.5 Setting the HTTP Port



Adjusting of the network ports

Changing the ports is only necessary in rare cases. Before adjusting the ports, contact your network administrator.

The HTTP port is the network port under which the Sunny WebBox user interface is available. Port 80 is set by default here. If you enter another port, you must explicitly specify this when opening the user interface.

Example: The Sunny WebBox IP address is 192.168.0.168 and you have changed the HTTP port to 8080; thus you must enter `http://192.168.0.168:8080` in the address bar of the web browser.

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
 Select "Settings" on the icon bar.
 2. Select the "External Communication > HTTP" parameter group.
 3. Select [Edit].
 4. In the "Port" field enter the desired Port. (Status upon delivery: Port 80)
 5. Select [Save].
- The HTTP port is saved.

6.5.6 Setting the NAT Port



Adjusting of the network ports

Changing the ports is only necessary in rare cases. Before adjusting the ports, contact your network administrator.

During a data transfer the Sunny WebBox communicates the Sunny Portal under which IP address and which port it is available on the internet. For this, the router must release the respective port. If you have changed the NAT (Network Address Translation) in the router, you must specify the network port that is set in the router. The NAT Port is set to 80 by default.

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
 Select "Settings" on the icon bar.
 2. Select the "External Communication > Ethernet > NAT" parameter group.
 3. Select [Edit].
 4. In the "Port" field enter the desired Port.
 5. Select [Save].
- The NAT port is saved.

6.6 Data Recording

6.6.1 Information on Data Recording

The Sunny WebBox can export the collected data from the PV plant in various data formats and make these available via the integrated FTP server or SD card.

The following data formats are possible:

- Comma Separated Value (CSV) (see section 6.6.2 "CSV Files" (page 45))
- Extensible Markup Language (XML) (see section 6.6.3 "XML files" (page 46))

The Sunny WebBox saves all data at selected recording intervals in the respective directory of the data format. Additionally you can set the description of the measured values (see section 6.6.4 "Setting measured value descriptions in local language" (page 47)).



Effects of format change on data exports of the Sunny WebBox

Changes to the format have an effect on all future data exports, e.g. data on the SD card or data on the internal FTP server.

6.6.2 CSV Files

Information on CSV Files

The Sunny WebBox saves the collected data of the PV plant into the relevant Day-CSV-file every 5 minutes. To do so, the Sunny WebBox adds the contents to the existing data. Individual data is always separated by a semicolon in the file. The decimal separator and the timestamp format in the files are determined by the country settings of the Sunny WebBox (see section 6.3 "Country Settings" (page 39)).

Directory path and structure of the filename

Directory Path	
.../CSV/[YYYY]/[MM]/	
Structure of the file name	
[YYYY]-[MM]-[DD].csv	CSV File

Example: Daily report file from 1.3.2010: .../CSV/2010/03/2010-03-01.csv

Activating export of the data in CSV format

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
Select "Settings" on the icon bar.
2. Select the "Data Recording > Export" parameter group.
3. Select [Edit].
4. In the "Data export in CSV format" field select "Yes".

5. Select [Save].
- The Sunny WebBox exports the data in CSV format.

Deactivating export of the data in CSV format

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
 or
 Select "Settings" on the icon bar.
2. Select the "Data Recording > Export" parameter group.
3. Select [Edit].
4. In the "Data export in CSV format" field select "No".
5. Select [Save].
- The Sunny WebBox does not export the data in CSV format.

6.6.3 XML files

Information on XML Files

The Sunny WebBox saves the collected data of the PV plant into a XML file every 5 minutes. In order to reduce the quantity and amount of data, the Sunny WebBox automatically packs the XML files to be added in a ZIP file and saves them onto the integrated FTP server or the SD card every 15 minutes. As a rule there are 3 XML files in a zip file. The decimal separator and the timestamp format in the files are determined by the country settings of the Sunny WebBox (see section 6.3 "Country Settings" (page 39)). You will find how an XML file is structured in section 10.3 "Structure of an XML Data File" (page 70).

Directory path and structure of the filename

Directory Path
.../XML/[YYYY]/[MM]/[YYYY]-[MM]-[DD]/

Structure of the file name	
[YYYY]-[MM]-[DD]_[HHMMSS].zip	Packed file in ZIP format
[YYYY]-[MM]-[DD]_[HHMMSS].xml	XML file

Example: daily report file from 2010-03-01, 12:42:08 hrs.: .../XML/2010/03/2010-03-01/2010-03-01_124503.zip

The ZIP file contains the following 3 XML files: 2010-03-01_123159.xml, 2010-03-01_123703.xml, 2010-03-01_124208.xml.

Activating export of the data in XML format

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
 Select "Settings" on the icon bar.
 2. Select the "Data Recording > Export" parameter group.
 3. Select [Edit].
 4. In the "Data export in XML format" field select "Yes".
 5. Select [Save].
- The Sunny WebBox exports the data in XML format.

Deactivating export of the data in XML format

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
 Select "Settings" on the icon bar.
 2. Select the "Data Recording > Export" parameter group.
 3. Select [Edit].
 4. In the "Data export in XML format" field select "No".
 5. Select [Save].
- The Sunny WebBox does not export the data in XML format.

6.6.4 Setting measured value descriptions in local language

You can set the description of the measured values as follows:

- Technical description of the measured value. *Example: Metering.TotWhOut*
- Description of the measured value as a term. *Example: Total yield*

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
 Select "Settings" on the icon bar.
 2. Select the "Data Recording > Export" parameter group.
 3. Select [Edit].
 4. In the "Measurement name in local language" field select "Yes" in order to display the descriptions as terms.
or
 In the "Measurement name in local language" field select "No" in order to display the technical descriptions.
 5. Select [Save].
- The measured value description is set.

7 Managing Plant Data

7.1 Information on the plant data

The Sunny WebBox can display instantaneous values and parameters of the registered devices and can relay this for subsequent processing (e.g. via Sunny Portal, FTP Push, internal FTP server, SD card).

SMA devices provide instantaneous values and parameters depending on the device type, which the Sunny WebBox can display and process depending on the user group. Instantaneous values and measured values or calculated values of the device such as for example: temperature or output.

The parameters are used for the configuration of the device. Depending on the authorization level, you can change the parameters.

You will find which instantaneous values and parameters are available in a device in the manual of the respective device.

The Sunny WebBox saves all continually recorded values of the connected devices on the 1 GB internal hard drive. If the storage capacity of the internal memory is reached, the Sunny WebBox overwrites all values older than 12 months. Save the plant data at regular intervals using the functions provided in the Sunny WebBox to an external hard drive.

7.2 Sunny Portal

7.2.1 Information on Sunny Portal

The Sunny WebBox offers you the possibility of sending all of your PV plant's relevant plant data automatically to the Sunny Portal internet portal. Sunny Portal is suitable for the individual presentation of plant data of every power class and offers comprehensive evaluation and notification functions. You will find further information on the Sunny Portal at www.SunnyPortal.com.

Before you can use Sunny Portal, you must register via the Sunny WebBox (see page 49).

If you are already registered in Sunny Portal with the PV plant, you must align the plant identifier (see page 52). This can be the case for example during a replacement of the Sunny WebBox.



Possible Delays in Visualization and Notifications

Please note that there can be delays before the Sunny Portal displays the transmitted data of your PV plant and when requested also to notifications to be sent to you.



SMS notification to a mobile telephone

Via Sunny Portal you can generate 'report e-mails', which can be sent automatically to your mobile telephone via a third party.

7.2.2 Registering Sunny WebBox in the Sunny Portal

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
Select "Settings" on the icon bar.
2. Select the "Sunny Portal > User settings" parameter group.
3. Select [Edit].

Sunny Portal (Communication products)	
▼ Basic settings	
Use Sunny Portal	No (1)
Upload frequency	Every 15 minutes (1)
▼ Status and actions	
Result of the last upload	-----
Portal connection test	
Result of the last portal connection test	-----
Register	
Result of the last registration	-----
▼ User settings	
Email	
Plant ID	48d91602-5a11-44ee-a581-07
Plant name	
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

4. In the "E-mail" field enter the e-mail address to which Sunny Portal should send the access data.
 5. The Sunny WebBox automatically enters the plant identifier in the "Plant ID" field. The number is, with the e-mail address and the plant name, a clear identifier of the PV plant.
 6. In the "Plant name" field enter the name of your PV plant. The Sunny WebBox displays the plant under this name in Sunny Portal.
 7. In the "Status and Actions" subgroup enter "Execute" in the "Register" field.
 8. Select [Save].
- The Sunny WebBox performs the registration onto Sunny Portal. The registration was successful, when the Sunny WebBox displays "OK" in the "Result of the last registration" field. Sunny Portal then sends your access data to the e-mail address entered.
- If the registration is unsuccessful, refer to section 9.1 "General Troubleshooting for the Sunny WebBox" (page 64).

7.2.3 Activating / Deactivating Sunny Portal

Activating data transmission to the Sunny Portal

The Sunny WebBox only transmits the data if you are logged out of the Sunny WebBox user interface. Logging in to the user interface of the Sunny WebBox is possible at all times.

Requirement:

You must be registered in Sunny Portal (see section 7.2.2 "Registering Sunny WebBox in the Sunny Portal" (page 49)):

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
 Select "Settings" on the icon bar.
 2. Select the "Sunny Portal > Basic settings" parameter group.
 3. Select [Edit].
 4. In the "Use Sunny Portal" field select "Yes" in order to use Sunny Portal. The Sunny WebBox sends the PV plant data automatically to the Sunny Portal depending on the defined upload frequency.
 5. Select [Save].
- The Sunny WebBox will send data to the Sunny Portal.

Deactivating data transmission to the Sunny Portal

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
 Select "Settings" on the icon bar.
 2. Select the "Sunny Portal > Basic settings" parameter group.
 3. Select [Edit].
 4. In the "Use Sunny Portal" field select "No" in order not to use Sunny Portal (status upon delivery).
 5. Select [Save].
- The Sunny WebBox will not send data to the Sunny Portal.

7.2.4 Testing the connection to Sunny Portal

You can test the connection to Sunny Portal. Registration in Sunny Portal is not necessary.

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
or
Select "Settings" on the icon bar.
 2. Select the "Sunny Portal > Status and Actions" parameter group.
 3. Select [Edit].
 4. In the "Portal connection test" field select "Execute".
 5. Select [Save].
- The Sunny WebBox performs a connection test. The connection test was successful, if the Sunny WebBox displays "OK" in the "Result of the last portal connection" field and "-" in the "Portal connection test" field.
- If the connection test is unsuccessful, refer to section 9.1 "General Troubleshooting for the Sunny WebBox" (page 64).

7.2.5 Setting the Upload frequency

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
Select "Settings" on the icon bar.
2. Select the "Sunny Portal > Basic settings" parameter group.
3. Select [Edit].
4. In the "Upload frequency" field select the desired value. See Table:

Selection	Relevance
"Every 15 minutes"	Data transmission within the next full 15 minutes.
"Daily"	Data transmission within the next full 24 hours.
"Hourly"	Data transmission within the next full hour.



Possible delays of the data uploads

The Sunny WebBox starts the data upload with a delay of up to 2.5 minutes, in order to avoid too great data transmission load for the Sunny Portal at certain times.

If an upload is still being performed and the Sunny WebBox is to start a new upload (possibly at 15 minute interval), the Sunny WebBox does not perform this new upload. The Sunny WebBox transmits the data with the next data upload.

5. Select [Save].
- The Sunny WebBox will send the data to the Sunny Portal in the prescribed intervals.

7.2.6 Accessing the Sunny WebBox via Sunny Portal

During every data transmission of the Sunny WebBox to the Sunny Portal, Sunny Portal saves the current IP address of the Sunny WebBox or the current IP address of your router used to establish the internet connection.

Using Sunny Portal, you can directly access your Sunny WebBox via the internet. Please note that you must set up a port rerouting in your router. Here it may be necessary to align the HTTP port and the NAT port of the Sunny WebBox (see section 6.5 "Ethernet Network" (page 41)).

7.2.7 Adjusting the Plant ID for Sunny Portal

In the following cases, you must adjust the plant ID in the Sunny WebBox:

- Another communication device has already sent plant data of the affected PV plant to Sunny Portal.
- You have reset the plant ID set for the Sunny WebBox via the reset button.
- You have replaced the Sunny WebBox with another Sunny WebBox.

Perform the following steps to adjust the plant ID of the Sunny WebBox for Sunny Portal:

1. Register in Sunny Portal (www.SunnyPortal.com) with the access data available.
 2. Go to "Configuration > Plant properties" on the Sunny Portal page.
 3. Copy the plant ID to the clipboard.
 4. Log into the Sunny WebBox as user or installer.
 5. In the Sunny WebBox user interface select the Sunny WebBox in the plant tree.
 6. Select "Settings" in the device menu.
 7. Select the "Sunny Portal > User settings" parameter group.
 8. Select [Edit].
 9. In the "Plant ID" field delete the current content and paste in the content of the clipboard.
 10. Select [Save].
- The plant ID for Sunny Portal is adjusted.

7.3 SD Card

7.3.1 Information on saving plant data on an SD card

You can save plant data onto an SD card. Once you have inserted the SD card into the SD card slot, the Sunny WebBox copies all plant data which is on the internal drive of the Sunny WebBox onto the SD card. The Sunny WebBox saves new plant data to the SD card as long as the SD card remains inserted and enough memory is available. In order to select a data format in which the Sunny WebBox should make the data available, refer to section 6.6 "Data Recording" (page 45).

7.3.2 Saving plant data on an SD card

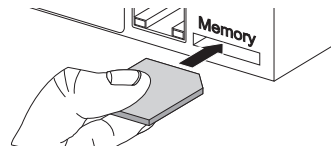
NOTICE

Loss of data on the SD card

Do not remove the SD card while the "SD Card" LED is flashing green or orange. This can damage the file system of the SD card and lead to data loss. Depending on the amount of data, the saving process can take some time.

Take note of the information on the SD card (see section 10.1 "Information on the SD Card" (page 69)).

1. Insert the SD card into the Sunny WebBox SD card slot.
- The Sunny WebBox saves the plant data onto the SD card.



7.4 Integrated FTP server

7.4.1 Information on the integrated FTP server

The Sunny WebBox is equipped with an integrated FTP server. You can directly access the saved plant data via the FTP server. The FTP server is activated as standard. You can call up the data with any FTP program or with Internet Explorer. The FTP server is protected via the passwords of the respective user group.

Please note that for logging into the integrated FTP server, the English description (User ID) for the respective user group and the related password must be entered:

User ID	User group
"Installer"	For the "Installer" user group
"User"	For the "User" user group

In order to select a data format in which the data should be made available please refer to section 6.6 "Data Recording" (page 45):

7.4.2 Activating / Deactivating the integrated FTP server

Activating the integrated FTP server

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
Select "Settings" on the icon bar.
 2. Select the "Device > FTP server" parameter group.
 3. Select [Edit].
 4. In the "Activated" field select "Yes" in order to activate the integrated FTP server.
 5. Select [Save].
- The integrated FTP server is activated.

Deactivating the integrated FTP server

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
Select "Settings" on the icon bar.
 2. Select the "Device > FTP server" parameter group.
 3. Select [Edit].
 4. In the "Activated" field select "No" in order to deactivate the integrated FTP server.
 5. Select [Save].
- The integrated FTP server is deactivated.

7.4.3 Accessing the FTP server via Internet Explorer

1. Start Internet Explorer.
2. Enter the IP address of the Sunny WebBox with details of the User ID and the password in the address bar of the web browser in accordance with the following template:

ftp://[UserID]:[Password]@[IP-address]

Use the following User ID:

User ID	User group
"Installer"	For the "Installer" user group
"User"	For the "User" user group

Example: if you want to log onto the Sunny WebBox with the IP address 192.168.0.168 as installer with the password "1111" enter: ftp://Installer:1111@192.168.0.168

3. Press enter on the keyboard.
- The browser displays the directory structure of the integrated FTP server. You can now download or display the data.



User name and password remain saved in the web browser cache

Once you have accessed the integrated FTP server via a web browser, the user name and password remain saved in the web browser cache. Delete the web browser cache in order to avoid unauthorized access to the integrated FTP server.

7.5 FTP Push

7.5.1 Information on FTP Push

The Sunny WebBox is equipped with an FTP Push function. With this function the Sunny WebBox can load the collected data of your PV plant to a freely selectable FTP server. FTP Push always transmits via the network port 21. The FTP Push function is deactivated as standard. The Sunny WebBox uploads the collected data to the directory given and in the desired data format every 15 minutes.

7.5.2 Activating / Deactivating FTP Push

Activating FTP Push

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
or
Select "Settings" on the icon bar.
 2. Select the "Further Applications > FTP Push" parameter group.
 3. Select [Edit].
 4. In the "Activated" field select "Yes" in order to activate the FTP Push function.
 5. In the "Login" field enter the login name of the external FTP server.
 6. In the "Port" field enter the network port under which the FTP server is available.
 7. In the "Password" field enter the password of the FTP server.
 8. In the "Server path" field enter the subdirectory where the Sunny WebBox should save the data on the FTP server.
 9. In the "Server" field enter the address of the server.
 10. In the "Data export in CSV format" field select "Yes" in order not to receive the data in CSV format.
or
In the "Data export in CSV format" field select "No" in order not to receive the data in CSV format.
 11. In the "Data export in XML format" field select "Yes" in order not to receive the data in XML format.
or
In the "Data export in XML format" field select "No" in order not to receive the data in XML format.
 12. Select [Save].
- The FTP push function is activated.

Deactivating FTP Push

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
Select "Settings" on the icon bar.
 2. Select the "Further Applications > FTP Push" parameter group.
 3. Select [Edit].
 4. In the "Activated" field select "No" in order to deactivate the FTP Push function.
 5. Select [Save].
- The FTP Push function is deactivated.

7.5.3 Testing FTP Push

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu.
or
Select "Settings" on the icon bar.
2. Select the "Further Applications > FTP Push" parameter group.
3. Select [Edit].
4. In the "Connection test" field select "Execute".
5. Select [Save].
- The Sunny WebBox performs a connection test. The connection test was successful if the Sunny WebBox displays "OK" in the "Result of the last connection test" field and "—" in the "Connection test" field.
 - If the connection test is unsuccessful, refer to section 9.1 "General Troubleshooting for the Sunny WebBox" (page 64).

8 Service Functions

8.1 Updating the Firmware

8.1.1 Information on Firmware Update

You have the option of updating the Sunny WebBox firmware. You can update the firmware online via the internet or locally via the SC card. Existing settings of the Sunny WebBox and data from the PV plant remain available after the update procedure. In order to always keep the Sunny WebBox up to date, activate the automatic firmware update via the internet.

The Sunny WebBox displays the current update procedure via the flashing orange "SYSTEM" LED and occasionally via a red running light across all LEDs. The firmware update is complete when the "SYSTEM" LED is green. The Sunny WebBox is again available via the user interface after the update procedure. An update procedure can take up to a maximum of 20 minutes.



Effect on the function during the update procedure

The Sunny WebBox restarts during the update process. Restart affects the Sunny WebBox in its function. For a short time you can not access the user interface.



Never remove the plug-in power supply during the update procedure.

8.1.2 Firmware Update via the Internet

If the Sunny WebBox has internet access, you can update the Sunny WebBox via the internet automatically or manually.

Activating / Deactivating automatic firmware update

When the automatic firmware update is activated, the Sunny WebBox checks daily whether a new firmware update is available. If a new firmware update is available, the Sunny WebBox downloads this from the internet and starts the update procedure. The update procedure starts automatically the following night (11:00 p.m.) when the PV plant is not in operation.



Unexpected interruption of an automatically started update procedure

If an automatically started update procedure of the Sunny WebBox is interrupted e.g. as a result of a power failure, the Sunny WebBox restarts the update procedure in the next defined time period.

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
Select "Settings" on the icon bar.
2. Select the "Device > Update" parameter group.
3. Select [Edit].

- In the "Automatic update" field select "Yes" in order to activate the automatic firmware update. (Status upon delivery)

or

In the "Automatic update" field select "No" in order to deactivate the automatic firmware update.

- Select [Save].
- The automatic firmware update is set.

Manually Updating the Firmware

NOTICE

Loss of plant data

Only perform a manual firmware update when the PV plant is not in operation (e.g. during the night). Otherwise, losses during the recording of the plant data may occur.



You can also carry out manual updates when the automatic firmware update is activated.

- Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
- or**
- Select "Settings" on the icon bar.
- Select the "Device > Update" parameter group.
 - Select [Edit].
 - In the "Check and install update" field select "Execute".
 - Select [Save].
 - The Sunny WebBox checks whether a new firmware update is available. If a new firmware update is available, the Sunny WebBox downloads this from the internet and starts the update procedure.

8.1.3 Firmware Update via SD Card

NOTICE

Loss of plant data

Only perform a manual firmware update when the PV plant is not in operation (e.g. during the night). Otherwise, losses during the recording of the plant data may occur.

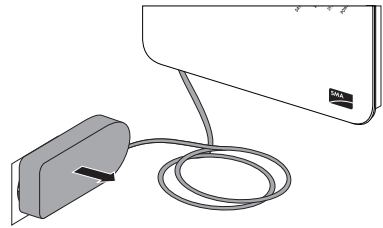
NOTICE

Loss of data on the SD card

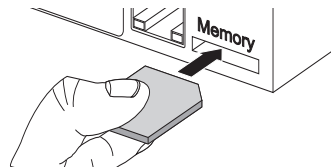
Do not remove the SD card while the "SD Card" LED is flashing green or orange. This can damage the file system of the SD card and lead to data loss. Depending on the amount of data, the saving process can take some time.

Take note of the information on the SD card (see section 10.1 "Information on the SD Card" (page 69)).

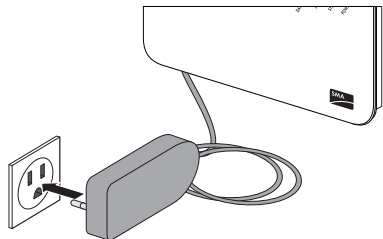
1. With the help of the computer create a folder on the SD card with the name "UPDATE".
2. Copy the update file (*.up2) in the folder created on the SD card.
3. Remove the plug-in power supply of the Sunny WebBox from the plug socket.



4. Insert the prepared SD card into the Sunny WebBox SD card slot.



5. Insert the plug-in power supply of the Sunny WebBox into the socket.
- The update procedure starts.



8.2 Stopping the Sunny WebBox

NOTICE

Loss of plant data

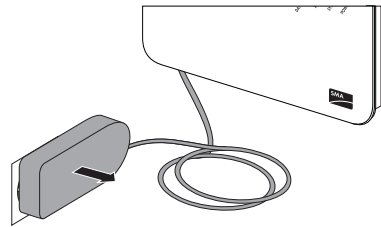
Only remove the plug-in power supply when the PV plant is not in operation (e.g. during the night). Otherwise, losses during the recording of the plant data may occur.

NOTICE

Loss of data on the SD card

Do not remove the Sunny WebBox from the utility grid while the "SD CARD" LED is flashing green or orange. This can damage the file system of the SD card and lead to data loss. Depending on the amount of data, the saving process can take some time.

1. Remove the plug-in power supply of the Sunny WebBox from the plug socket.
- The Sunny WebBox has been stopped



8.3 Restarting the Sunny WebBox via the user interface

1. Select the Sunny WebBox in the plant tree and select "Settings" in the device menu
or
Select "Settings" on the icon bar.
 2. Select the "Device > System" parameter group.
 3. Select [Edit].
 4. In the "Initiate device restart" field, select "Execute".
 5. Select [Save].
- The Sunny WebBox restarts. The restart was successful if the "SYSTEM" and "POWER" LEDs light up again. The start-up procedure can take up to 90 seconds.
- IF the "SYSTEM" or "POWER" LEDs do not glow green, please refer to section 9.1 "General Troubleshooting for the Sunny WebBox" (page 64).

8.4 Resetting the Sunny WebBox Using the Reset Button

You can reset the Sunny WebBox via a small hole in the rear side of the Sunny WebBox with the reset button hidden behind this. For this the Sunny WebBox must be supplied with electricity.



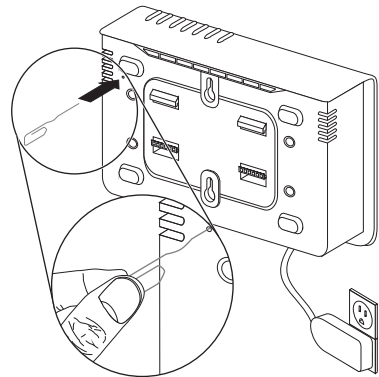
Data backup

Before you reset the Sunny WebBox, take note when necessary of all settings such as network or portal settings. In addition secure the PV plant data in order to avoid data losses.

Depending on how long you press the Reset button, the Sunny WebBox performs the actions listed in the following table.

Duration	Action
1 - 5 seconds	Reset the passwords to the factory setting. All other settings and PV plant data will be saved.
5 - 15 seconds	Reset the network settings to the factory setting. All other settings and PV plant data will be saved.
15 - 30 seconds	Resets all settings (event memory, network settings, modem settings, portal settings and passwords) of the Sunny WebBox back to the default values. PV plant data will be fully deleted.

1. Use a sharp object to activate the hidden reset button through the hole.
- The Sunny WebBox resets its settings.



8.5 Determining Current Settings of the Sunny WebBox via the SD Card

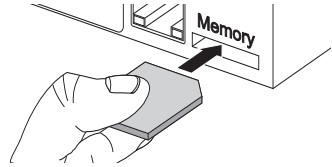
With the following steps you can determine the current settings and the current firmware of the Sunny WebBox when you do not have access to the user interface.

Take note of the information on the SD card (see section 10.1 "Information on the SD Card" (page 69)).

1. Insert the SD card into the Sunny WebBox SD card slot.

- The Sunny WebBox creates a folder with the name "WEBBOX_[serial number]" on the SD card and saves the "config.xml" file there. The writing process is complete when the "SD Card" LED is permanently lit.

Example: `WEBBOX_0155000123\config.xml`



2. When the "SD Card" LED is permanently lit, remove the SD card from the Sunny WebBox SD card slot.
 3. Read off the SD card using a computer with an SD card reader.
 4. Open the "config.xml" file in the WebBox_[serial number] folder with a text editor or a web browser.
- Read the values of the network settings of the Sunny WebBox (see section 10.2 "Structure of the Config.xml File" (page 69)).

9 Troubleshooting

9.1 General Troubleshooting for the Sunny WebBox

No.	Problem	Cause	Rectification
1	The Sunny WebBox is not available via the user interface.	The Sunny WebBox is not connected to the network or to the power supply.	<ul style="list-style-type: none"> Connect the Sunny WebBox with the network cable directly to the computer or the local network and supply the Sunny WebBox with power (see installation manual of the Sunny WebBox with <i>Bluetooth</i>).
	or		
	The Sunny WebBox Assistant does not find the Sunny WebBox.	Incorrect network settings of the network components.	<ul style="list-style-type: none"> Use the Sunny WebBox Assistant for commissioning. Check the network settings of the computer with which you wish to access the Sunny WebBox. Align the network settings if necessary. Carry out a reset of the Sunny WebBox (see page 62) and repeat the commissioning. Check the network settings for the individual network components (e.g., router, proxy server, etc.). Align the network settings if necessary. Contact your network administrator.
		A Firewall is blocking the connection.	<ul style="list-style-type: none"> Deactivate the computer firewall or enable the necessary connection.
	Defective or damaged network components, network cables or plug connections.	<ul style="list-style-type: none"> Replace the defective or damaged parts in the network. Contact your network administrator. 	

No.	Problem	Cause	Rectification
1	The Sunny WebBox is not available via the user interface.	The web browser is incorrectly configured.	<ul style="list-style-type: none"> If there is a proxy server in your network, you must enter an exception for the proxy server in your web browser (see section 10.4 "Information on your Web Browser" (page 71)).
	or The Sunny WebBox Assistant does not find the Sunny WebBox.	There is no internet connection.	<ul style="list-style-type: none"> Reinstall the internet access. If necessary, contact your internet service provider.
		The Sunny WebBox has not been correctly started.	<ul style="list-style-type: none"> Remove the Sunny WebBox plug-in power supply from the plug socket and plug it back in after a short time in order to restart the Sunny WebBox. Note that this can lead to loss of collected plant data.
		IPv6 is not supported by the proxy server.	<ul style="list-style-type: none"> Use a proxy server that supports IPv6.
2	The "SYSTEM" LED is flashing red.	A system error has occurred.	<ul style="list-style-type: none"> Remove the Sunny WebBox plug-in power supply from the plug socket and plug it back in after a short time in order to restart the Sunny WebBox. Contact the SMA Serviceline.
3	The "POWER" LED is off.	The Sunny WebBox is not supplied with electricity.	<ul style="list-style-type: none"> Check the power supply of the plug socket and rectify any faults.
4	Sunny WebBox does not send any data to the Sunny Portal or the external FTP server (the "DATA UPLOAD" LED is red)	The data transfer is incorrectly configured.	<ul style="list-style-type: none"> Check the settings of Sunny Portal or FTP Push (see page 48). Perform a connection test. You must be registered for data transfer to Sunny Portal. Register your Sunny WebBox in the Sunny Portal(see page 49).
	or The connection test to Sunny Portal or to the external FTP server was not successful.	There is a fault in the network.	<ul style="list-style-type: none"> Check the network settings of the individual network components (e.g., router, Sunny WebBox, Computer) and adjust if necessary. Check the network components for defects or damage. Replace defective or damaged parts in the network. Perform a connection test.

No.	Problem	Cause	Rectification
5	Sunny Portal registration was not successful.	Invalid data	<ul style="list-style-type: none"> Perform a connection test (see page 51).
6	After an FTP download, the Internet Explorer shows old Sunny WebBox data.	The cache properties of Internet Explorer show old data.	<ul style="list-style-type: none"> Use an FTP client in order to load the plant data from the internal FTP server of the Sunny WebBox.
7	The "SD CARD" LED glows red.	The SD card is full.	<ul style="list-style-type: none"> Replace the SD card or format the SD card in FAT 32 format.
		The SD card is write-protected.	<ul style="list-style-type: none"> Remove the write protection of the SD card.
8	After a Sunny WebBox is replaced, Sunny Portal contains two plants with the same name.	Double Sunny Portal registration	<p>The Sunny WebBox supplied as a replacement device logs into the Sunny Portal with a new plant ID. Sunny Portal creates a new plant for this plant ID, even if you gave the plant the same name.</p> <ul style="list-style-type: none"> Assign the plant ID of the old plant to the replacement device (see page 52). In the replacement device enter the e-mail address of a user who has administrator rights in Sunny Portal for the plant. In Sunny Portal, delete the new plant the replacement device created.
9	Parameters can not be processed.	You do not possess the necessary rights for the parameter.	<ul style="list-style-type: none"> Change the user group.
		You have an inverter with upgraded SMA Bluetooth Piggy-Back with a software version lower than 02.00.00.R.	<p>The Bluetooth Piggy-Back does not support the configuration of parameters and the graphical presentation of monthly and annual energy values.</p> <ul style="list-style-type: none"> Update the Bluetooth Piggy-Back with the help of Sunny Explorer.
10	Windows displays no LAN connection.	The network card driver (Ethernet card) is not installed or the network card is defective.	<ul style="list-style-type: none"> Check the installation of the network adaptor in the device manager and re-install the driver if necessary or replace the faulty network card with a new one.

No.	Problem	Cause	Rectification
11	Fault in the user interface display	JavaScript is not activated.	<ul style="list-style-type: none"> • Activate JavaScript in the Web browser

9.2 Bluetooth Connection

No.	Problem	Cause	Rectification
1	The Sunny WebBox displays no <i>Bluetooth</i> devices.	An incorrect NetID is set.	<ul style="list-style-type: none"> • Set the NetID of the PV plant (see installation manual of the Sunny WebBox with <i>Bluetooth</i>) and repeat commissioning. • Contact your installer.
		The connection to the <i>Bluetooth</i> plant is too weak.	<ul style="list-style-type: none"> • Shorten the distance to the devices or use an SMA <i>Bluetooth</i> Repeater in order to extend the radio range. Repeat the commissioning (see installation manual of the Sunny WebBox with <i>Bluetooth</i>).
		There are already 4 masters connected to the <i>Bluetooth</i> plant.	<ul style="list-style-type: none"> • Remove a master and repeat the commissioning (see installation manual of the Sunny WebBox with <i>Bluetooth</i>).
		There are already 2 nodes connected to the device through which you want to connect to the <i>Bluetooth</i> plant.	<ul style="list-style-type: none"> • Change the position of the Sunny WebBox in order to create a connection via another device in the plant or remove a master from the plant. Further information on SMA <i>Bluetooth</i> can be found in the download section at www.SMA-America.com
2	Inverter is not accessible.	The <i>Bluetooth</i> connection was interrupted.	<ul style="list-style-type: none"> • Wait until the Sunny WebBox has automatically re-established the connection.

No.	Problem	Cause	Rectification
2	Inverter is not accessible.	Parameters for the <i>Bluetooth</i> communication were changed.	When setting parameters that regulate the <i>Bluetooth</i> connection (e.g. parameters for the transmitting power and country parameters), the communication via <i>Bluetooth</i> is interrupted for some time. The inverters restart their communication interface. This does not apply to inverters with upgraded SMA <i>Bluetooth</i> Piggy-Back. <ul style="list-style-type: none"> • Wait until the inverter has completed a restart. The inverter is then accessible again.
		Inverter with upgraded SMA <i>Bluetooth</i> Piggy-Back is in night mode.	<ul style="list-style-type: none"> • Wait until the inverter is again working in normal operation. The inverter is then accessible again.
		The inverter has not been set to the same NetID and commissioned.	<ul style="list-style-type: none"> • The inverter must be set to the NetID of your PV plant and commissioned. Contact your installer.
3	The Sunny WebBox displays unknown inverters.	The set NetID is already assigned via an unknown <i>Bluetooth</i> PV plant.	<ul style="list-style-type: none"> • You must assign the PV plant with a free NetID. Contact your installer.
4	The Sunny WebBox displays an inverter as unknown device in the plant tree.	The inverter with integrated <i>Bluetooth</i> has an old software package (only for inverters SB 3000TL-20, SB 4000TL-20, SB 5000TL-20).	<ul style="list-style-type: none"> • Update the software package version of your inverter to a version higher than 2.0. • Contact your installer.

10 Annex

10.1 Information on the SD Card

To ensure that the SD card is functioning properly, use SD cards available from SMA. Compatibility with all SD cards available on the market cannot be guaranteed. The Sunny WebBox does not support SD cards with storage capacities of over 2 GB or SDHC cards.

Only use SD cards which have been formatted with the FAT32 file system. If necessary reformat the SD card using the computer.

The Sunny WebBox converts the SD card's file system to TFAT in order to increase data security. If you wish to delete the SD card, you must format the SD card on the computer with the FAT32 file system.

10.2 Structure of the Config.xml File

The "config.xml" configuration file contains information on the Sunny WebBox network settings, the firmware version and further settings.

Example:

```
<?xml version="1.0" encoding="utf-8"?>
<WebBox>
  <Settings>
    <add key="Version" value="1.5" />
    <add key="Plant-ID" value=" " />
    <add key="User-ID" value="John.Doe@SMA-America.com" />
  <add key="DHCP" value="false" />
    <add key="IP-Address" value="192.168.0.168" />
    <add key="SubNetMask" value="255.255.255.0" />
    <add key="Gateway" value="192.168.0.100" />
    <add key="DNS-Server" value="192.168.0.100" />
      <add key="NAT-Port" value="80" />
    <add key="Webserver-Port" value="80" />
    <add key="Webservice-Port" value="80" />
  </Settings>
  <Export>
    (...)
  </Export>
</WebBox>
```

Setting	Relevance
Version	The current firmware version of the Sunny WebBox
Plant ID	Plant ID for Sunny Portal
User ID	User ID for Sunny Portal
DHCP	Displays whether the Sunny WebBox acquires the network settings via DHCP.
IP address	The current IP address of the Sunny WebBox
SubNetMask	The current Subnet mask of the Sunny WebBox
Gateway	The currently set Gateway IP address
DNS server	The currently set DNS server IP address
NAT Port	The currently set NAT port
Web server port	The currently set port of the web server
Web service port	The set port of the web service

10.3 Structure of an XML Data File

Example:

```
<?xml version="1.0" encoding="utf-8"?>
<WebBox>
  <Info>
    <Created>2010-02-10T01:37:04</Created>
    <Culture>en</Culture>
  </Info>
  <MeanPublic>
    <Key>My Sunny WebBox:155000234:Metering.TotWhOut</Key>
    <Mean>761.858</Mean>
    <Base>1</Base>
    <Period>300</Period>
    <Timestamp>2010-02-09T10:55:52</Timestamp>
  </MeanPublic>
  <MeanPublic>
    (...)
  </MeanPublic>
</WebBox>
```

Setting	Relevance
Info	Information
Create	Date of generation

Setting	Relevance
Culture	Language
UtcOffset	Offset in minutes to UTC
MeanPublic	Data of the mean values
CurrentPublic	Data of the instantaneous values
Key	Name of the element made up of device name, serial number of the device and the parameter name. Individual values are separated by a colon. <i>Example: D <Key>SENS0700:5141:TmpMdul C</Key></i>
Min	Smallest value in measurement interval / merging
Max	Largest value in measurement interval / merging
Mean	Average value in measurement interval / merging
Base	Quantity of the instantaneous values in interval / quantity of the merged values
Period	Length of the measurement interval in seconds
TimeStamp	Time stamp, at which the average was calculated

10.4 Information on your Web Browser

In order to be able to call up the Sunny WebBox user interface, you need a current web browser. You can use the standard settings of your web browser.

Ensure that

- JavaScript is activated.
- If a Proxy server is active in your network, you must set up a proxy exception rule in your browser (see page 10.5 "Setting up a Proxy Exception Rule in Internet Explorer" (page 71)).

10.5 Setting up a Proxy Exception Rule in Internet Explorer

1. Start Internet Explorer.
 2. In Internet Explorer, select "Tools > Internet Options".
 3. The "Internet Options" window opens.
 4. Select the "Connections" tab, then click [Settings].
 5. Select [Advanced].
 6. In the "For addresses that start as follows, do not use a Proxy server:" field, enter the address 192,168.*.
 7. Confirm entry with [OK] and close all further windows by selecting [OK].
- The proxy exception rule is set up.

10.6 Activating IPv6 in Windows XP SP2

In order to be able to locate the Sunny WebBox with the Sunny WebBox Assistant IPv6 is required. IPv6 stands for Internet Protocol Version 6 and specifies the procedures that are necessary for data transfer via a package-switching data network.

IPv6 is the successor to IPv4, which is still predominantly found on use in the internet. IPv6 is already activated in Windows Vista, Windows 7, MacOS and Linux. In Windows XP SP2 you must activate IPv6.

In order to activate IPv6 manually, proceed as follows:

8. In Windows select "Start > Run".
9. In the "Open" field enter "ncpa.cpl" and select [OK].
 - The "Network connections" window opens.
10. Double click on the LAN connection via which the Sunny WebBox is connected.
 - If Windows displays several LAN connections, there are probably several network connections installed in the computer. Ensure that you select the correct network connection, with which the computer is connected to the Sunny WebBox. If necessary, refer to the manual of your computer.
 - In the event that Windows displays no LAN connection, refer to section 9.1 "General Troubleshooting for the Sunny WebBox" (page 64).
11. Select [Properties].
 - The "LAN connection properties" window opens.
 1. Activate "Microsoft TCP/IP Version 6".
 2. Select [OK].
 - IPv6 is activated.

10.7 Allocating IP addresses in a local network

You select a static IP address (Internet Protocol). Use the address range which is available to your router. In most cases the address range of the router lies between 192.168.0.1. and 192.168.255.254. If necessary refer to the manual of your router.

Please note during the allocation of the IP address that the first three address parts of the IP address must be identical for all participants of the same network. You may not allocate the same IP address twice.

Example:

Router:	192.168.0.1
Computer 1	192.168.0.2
Computer 2	192.168.0.3
Sunny WebBox	192.168.0.168

11 Contact

If you have technical problems concerning our products, contact the SMA Serviceline. We require the following information in order to provide you with the necessary assistance:

- The current firmware version of the Sunny WebBox.
- Serial number and hardware version of the Sunny WebBox.
- Type of communication interface between Sunny WebBox and the inverters.
- Type and serial numbers of the inverters connected to the plant.

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