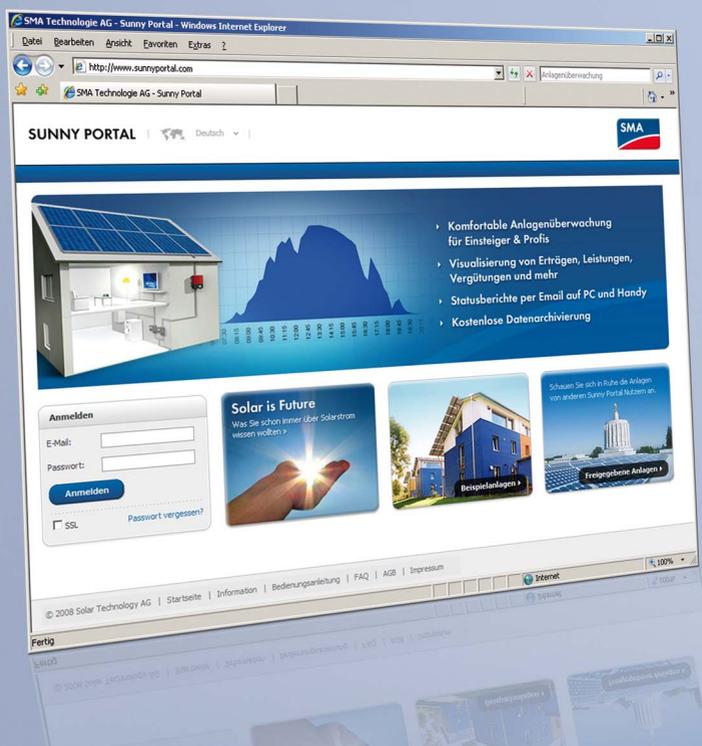


# System Monitoring

## SUNNY PORTAL

### User Manual





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# 1 Information about this Manual

## 1.1 Symbols Used

The following general information is used in this document:



### Information

"Information" provides tips that are valuable for the optimal operation of the program.

## 1.2 Terminology

Type	Example of terminology
Menu, individual menu item	Select "File".
Several menu items	Select "File > Extras".
Button	Select [Save].

## 1.3 Additional Information

You can find further information on the following subjects in the "Downloads" area of [www.SMA.de/en](http://www.SMA.de/en):

- How to receive e-mails from your Internet mailbox on your mobile phone via text message is described in the "E-mail to SMS" technical information.
- The significance of the performance ratio for rating energy efficiency and the reliability of your PV system is described in the "Performance Ratio" technical information.

## 2 Getting Started

### 2.1 Registering a PV System in Sunny Portal

You can register your PV system in Sunny Portal exclusively through the following SMA Solar Technology AG communication products.

#### **Sunny WebBox:**

- Register the Sunny WebBox in Sunny Portal as described in the Sunny WebBox manual.

#### **Sunny Boy Control/Plus:**

- If your Sunny Boy Control/Plus is equipped with the optional NET Piggy-Back, you can forward the system data to Sunny Portal directly via Ethernet, or through one of the possible modems. Configure data transmission to Sunny Portal in the Sunny Boy Control/Plus as described in the NET Piggy-Back manual.
- If your Sunny Boy Control/Plus is not equipped with the optional NET Piggy-Back, you can register your system via Sunny Data Control.

#### **Sunny Data Control:**

- In Sunny Data Control, configure Sunny Portal e-mail as described in the Sunny Data Control help. You can download the Sunny Data Control software in the download area of [www.SMA.de/en](http://www.SMA.de/en).

## 2.2 Logging In and Out of Sunny Portal

### Logging In to Sunny Portal

#### Requirement:

- You have registered at Sunny Portal (see Section 2.1 "Registering a PV System in Sunny Portal" (page 7)).
1. Open [www.SunnyPortal.com](http://www.SunnyPortal.com).
  2. Activate "SSL" for secure transmission of your login details.
  3. Enter the e-mail address you provided when registering in the "E-mail" field.
  4. Enter the password you received by e-mail in the "Password" field.
  5. Check the "Remain logged in" box to stay logged in. This way, you will not have to sign in again for your next Sunny Portal session. You will stay logged in, even after closing your browser or switching off your computer. The function will stay activated until you log out of Sunny Portal through the lock symbol in the upper right corner.



#### Public or Shared Computers

If you are using a public computer or sharing yours with other people, deactivate the "Remain logged in" function. Other people could call up your data in Sunny Portal.

6. Select [Login].
  - The "User information" page opens when first logging in.
7. Fill in your address details.
8. Select [Save].



#### Delays in Visualization

Under certain circumstances, it can take up to three hours until the data of your PV system is displayed in Sunny Portal.

#### Display According to System Data Transferred

The displayed available data on the pages will vary according to the amount of transferred system data.

### Logging Out of Sunny Portal

- In order to end your Sunny Portal session, go to "User info/Logout > Logout".

## 2.3 Next Steps

- Change your password in order to protect your Sunny Portal account against unauthorized access (see Section 9.6 "Changing the Password" (page 63)).
- Get acquainted with Sunny Portal (see Section 3 "Menu Overview" (page 10)).
- Design your own pages according to your wishes (see Section 5 "Page Design" (page 15)).
- Use the report function of Sunny Portal and receive current updates about your PV system by e-mail or text message (see Section 6.4 "Report Configuration" (page 41)).
- Enter the properties of your PV system (see Section 7 "System Properties" (page 45)).
- Give friends access to your Sunny Portal as guests, default users, installers, or administrators, like yourself (see Section 9 "User Management" (page 61)).

### 3 Menu Overview

Menu	Meaning
<b>Select system</b>	The menu is only shown if your e-mail address is assigned to more than 1 system. You can select the desired system in this menu. The name of the currently chosen system will be used for the main menu item under the "Select system" main menu. All other pages always refer to the currently selected system.
<b>Select system &gt; System list</b>	<p>The page includes an overview of systems that are assigned to your e-mail address. The following data is listed for each system:</p> <ul style="list-style-type: none"> <li>• System power in kWp</li> <li>• Total yield so far</li> <li>• Total yield for the following periods: <ul style="list-style-type: none"> <li>- Current day</li> <li>- Previous day</li> <li>- Current month</li> </ul> </li> <li>• Specific system yield (kWh/kWp) for the following periods: <ul style="list-style-type: none"> <li>- Current month</li> <li>- Current year</li> </ul> </li> </ul> <p>When accessing the page, the system list is always sorted in ascending order according to the specific system yield. Click on a blue value in the header to sort the list of systems in ascending order according to this value, click again to sort the list of systems in descending order.</p>
<b>"Name of your system"</b>	The menu includes pages with the most important information about your system: key data, yield, monitoring, and messages. Sunny Portal automatically creates the pages in this menu.
<b>"Name of your system" &gt; System profile</b>	This page includes an overview with information for the current system. Sunny Portal compiles the system profile from information that you have entered on your Sunny Portal pages. Information that you have not entered (e.g., "Operator") is not shown in the system profile. Information in the system profile (see Table "Information in the System Profile:" (page 12)).
<b>"Name of your system" &gt; Energy and power</b>	<p>The page shows the total yield for the current system in 4 diagrams:</p> <ul style="list-style-type: none"> <li>• Day: Power produced over the day</li> <li>• Month: Total yield per month in days</li> <li>• Year: Total yield per year in months</li> <li>• Total: Total yields per year</li> </ul>
<b>"Name of your system" &gt; Annual comparison</b>	The page shows the total yield and the specific yield of the current system per month in a yearly overview.

Menu	Meaning
<b>"Name of your system"</b> > System monitoring	<p>On this page there are 2 functions for monitoring the current system:</p> <ul style="list-style-type: none"> <li>• Monitoring of communication between Sunny Portal and your system</li> <li>• Monitoring of system by comparing inverters</li> </ul> <p>System monitoring, see Section 6.3 "System Monitoring" (page 38).</p>
<b>"Name of your system"</b> > System log	<p>The page shows messages from Sunny Portal and the current system. These messages help you to identify system failures, for example. The number after the colon shows the number of unread messages.</p>
<b>Visualization</b>	<p>The menu includes default pages with visualizations of your system data that is created automatically by Sunny Portal (default pages, see Section 5.7 "Default Pages" (page 33)). All pages that you create yourself are also stored here by Sunny Portal (creating pages, see Section 5.1 "Creating a New Page" (page 15)).</p>
<b>Configuration</b>	<p>The menu includes pages through which you can set different configurations for your Sunny Portal, e.g., create own pages, edit system properties, and create new pages.</p> <ul style="list-style-type: none"> <li>• Visualization, see Section 5 "Page Design" (page 15)</li> <li>• System properties, see Section 7 "System Properties" (page 45)</li> <li>• Device overview, see Section 8.1 "Calling Up and Filtering the Device Overview" (page 53)</li> <li>• Report configuration, see Section 6.4 "Report Configuration" (page 41)</li> <li>• User management, see Section 9 "User Management" (page 61)</li> </ul>
<b>User info/logout</b>	<p>The menu lets you call up user information and end your Sunny Portal session. The "User information" page also lets you change your password.</p> <ul style="list-style-type: none"> <li>• User information, see Section 9.5 "Changing User Information" (page 63)</li> <li>• Logout</li> </ul>

**Information in the System Profile:**

The following table includes the possible information in the system profile and the sources for changing or entering the information.

<b>Information in the system profile</b>	<b>Source</b>
<b>Location</b>	Section 7.1.1 "Changing General System Data" (page 45); from the country and city information
<b>Operator</b>	Section 7.2 "Changing Operator Data" (page 48)
<b>Commissioning</b>	Section 7.1.1 "Changing General System Data" (page 45)
<b>System power</b>	Section 7.1.4 "Configuring System Power" (page 46)
<b>Annual yield</b>	Section 7.3.3 "Changing the Forecast" (page 50)
<b>CO<sub>2</sub> saved</b>	
<b>Modules</b>	Section 7.1.4 "Configuring System Power" (page 46)
<b>Tilt angle</b>	Section 8.2.5 "Configuring the Generator Power" (page 58), paragraph "Configuring the Power of an Inverter through Multiple Strings" (page 58)
<b>Tracking</b>	
<b>Inverter</b>	Sunny Portal receives the information from the devices
<b>Communication</b>	
<b>Description</b>	Section 7.1.5 "Changing the Description of the System" (page 47)
<b>System image next to the data</b>	Section 7.1.6 "Changing/Deleting the System Image" (page 47)

## 4 Page, Table, and Diagram Functions

### Page Functions:

At the end of each page with at least 2 tables or diagrams, you can change the end date for all diagrams and tables on the page. If the period presented in the table or the diagram is 1 year or 1 month, the year or the month of the entered end date will be adopted.

### Table Functions:

The functions are described by means of the following example table.

Devices/Plants	Gesamtertrag Meter Change [kWh] 31/03/2010	Gesamtertrag Meter Change [kWh] March 2010	Gesamtertrag Meter Change [kWh] 2010
SB4200TL	10.43	395.34	517.11
SB5000TL	13.95	553.42	721.37
	24.38	948.76	1238.48
	[Total]	[Total]	[Total]

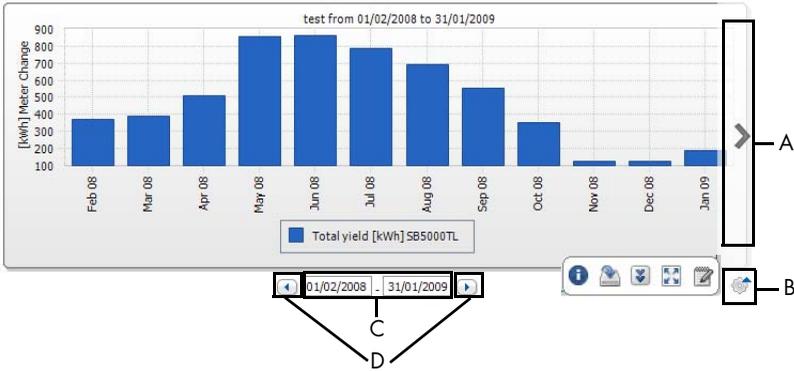
< Year < Month < Day 31/03/2010 Day > Month > Year >

C
D

Position	Meaning
A	The table header lets you sort the displayed data in ascending or descending order. Click on a blue value in the header to sort the data in the table in ascending order, click again to sort the data in descending order.
B	Opens a window for saving the data in the set format
C	Opens calendar In the calendar you can scroll through the months using the arrows and select the desired display period.
D	Here you can scroll to the next or previous display period within the displayed intervals.

**Diagram Functions:**

The functions are described by means of the following example diagram.



Position	Meaning
A	The right and left side of the diagram let you scroll to the next or previous display period if the data is available.
B	Opens more buttons for editing the diagram.
C	Opens calendar In the calendar you can scroll through the months using the arrows and select the desired display period.
D	Here you can scroll to the next or previous display period within the displayed intervals.

**Buttons for Editing the Diagrams:**

Symbol	Meaning
	Opens a submenu with the options described below for the diagram.
	Opens window with table view of diagram values. If the window does not open, see Section 10 "Troubleshooting" (page 64).
	Opens a window for saving the data in the set format.
	Shows legend
	Hides legend
	Shows fullscreen diagram
	Opens page configuration for editing the diagram.

## 5 Page Design

### 5.1 Creating a New Page

1. Select "Configuration > Visualization".
  - The "Page configuration (groups)" page opens.
2. Select [New page].
  - Page templates open.

3. Enter page name in "Please enter the page name" field.
4. Select desired page template. Here you can select how the page should be divided. The divided sections can be filled with different contents. HINT: In page templates 8 and 12, the height of the two upper sections is limited. These sections are only suitable for small images, like logos.
  - The "Page configuration" page opens.
5. Select the desired page content in a section of the page in the "Module type" field.
6. Select [Create] and create desired page content (see Section 5.2 "Creating Page Contents" (page 16)).

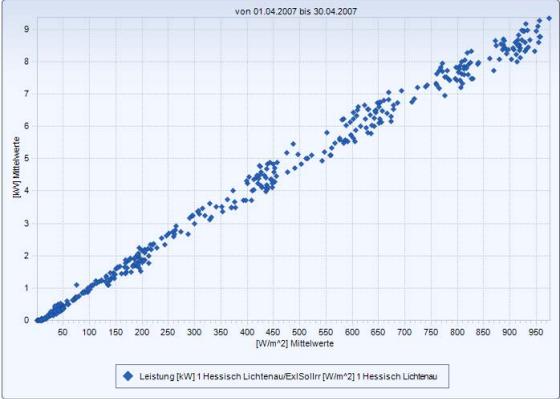
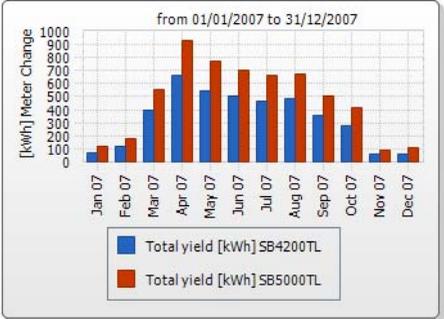
## 5.2 Creating Page Contents

### 5.2.1 Overview of Page Contents

You can choose from the following page contents:

Page content	Content																				
<p><b>Table</b></p>	<p>You can present the following data in tables:</p> <ul style="list-style-type: none"> <li>• Channel values of the devices The channel values that can be selected depend on the device.</li> <li>• Channel values of the entire system:                             <ul style="list-style-type: none"> <li>- CO<sub>2</sub> saved</li> <li>- Total yield</li> <li>- Performance ratio</li> <li>- Power</li> <li>- Compensation</li> <li>- Specific system yield</li> </ul> </li> </ul> <p><b>Example table:</b></p> <table border="1" data-bbox="385 767 996 890"> <thead> <tr> <th>Devices/Plants</th> <th>Gesamtertrag Meter Change [kWh] 31/03/2010</th> <th>Gesamtertrag Meter Change [kWh] March 2010</th> <th>Gesamtertrag Meter Change [kWh] 2010</th> </tr> </thead> <tbody> <tr> <td>SB4200TL</td> <td>10.43</td> <td>395.34</td> <td>517.11</td> </tr> <tr> <td>SB5000TL</td> <td>13.95</td> <td>553.42</td> <td>721.37</td> </tr> <tr> <td></td> <td>24.38</td> <td>948.76</td> <td>1238.48</td> </tr> <tr> <td></td> <td>[Total]</td> <td>[Total]</td> <td>[Total]</td> </tr> </tbody> </table> <p style="text-align: center; font-size: small;">                     &lt; Year &lt; Month &lt; Day <span style="border: 1px solid black; padding: 0 2px;">31/03/2010</span> Day &gt; Month &gt; Year &gt;  </p>	Devices/Plants	Gesamtertrag Meter Change [kWh] 31/03/2010	Gesamtertrag Meter Change [kWh] March 2010	Gesamtertrag Meter Change [kWh] 2010	SB4200TL	10.43	395.34	517.11	SB5000TL	13.95	553.42	721.37		24.38	948.76	1238.48		[Total]	[Total]	[Total]
Devices/Plants	Gesamtertrag Meter Change [kWh] 31/03/2010	Gesamtertrag Meter Change [kWh] March 2010	Gesamtertrag Meter Change [kWh] 2010																		
SB4200TL	10.43	395.34	517.11																		
SB5000TL	13.95	553.42	721.37																		
	24.38	948.76	1238.48																		
	[Total]	[Total]	[Total]																		

Page content	Content
<p><b>System profile</b></p>	<p>You can also use this information on your customized pages. Information in the system profile:</p> <ul style="list-style-type: none"> <li>• System name</li> <li>• Location</li> <li>• Operator</li> <li>• Date of commissioning</li> <li>• System power</li> <li>• Annual yield</li> <li>• CO<sub>2</sub> saved</li> <li>• PV modules</li> <li>• Azimuth</li> <li>• Tilt angle</li> <li>• Tracking</li> <li>• Inverter</li> <li>• Communication</li> <li>• Description</li> </ul> <p><b>Example system profile:</b></p> <div data-bbox="386 826 912 1150" style="border: 1px solid black; padding: 10px;"> <p>Plant Profile   Sunny Trees</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 60%;"> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> <p><b>Location:</b> Kassel, Germany</p> <p><b>Commissioning:</b> 27/06/2008</p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> <p><b>Plant power:</b> 24,24 kWp</p> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <p><b>Inverter:</b>  6 Sunny Boy 3800</p> </div> </div> <div style="width: 35%; text-align: center;">  </div> </div> <p><b>Description:</b></p> <p> Lorem ipsum dolor et amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum irure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero et accumsan et justo odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugiat nulla facilisis. Lorem ipsum dolor et amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum irure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero et accumsan et justo odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugiat nulla facilisis. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet doming id quod mazim placerat feacit postin assum.</p> </div>

<p><b>Page content</b></p>	<p><b>Content</b></p>
<p><b>XY diagram</b></p>	<p>You can display 2 channel values as coordinates. The x and y axes are assigned 1 channel value each. The time axis is not shown. Examples for sensible value pairs are: system power and radiation (only for systems with Sunny SensorBox), performance ratio and radiation.</p> <p><b>Example XY diagram:</b></p> 
<p><b>Diagram</b></p>	<p>You can display a timeline of the channel values of the devices and the entire system as bar charts and line charts.</p> <p><b>Example diagram:</b></p> 
<p><b>Slideshow</b></p>	<p>You can display a slideshow which you have already created in a photo platform.</p>

Page content	Content
<b>Image</b>	<p>You can insert an image of your choice.</p> <p><b>Requirements:</b></p> <ul style="list-style-type: none"> <li>• Maximum image size: 500 kB</li> <li>• Possible image formats: JPG, PNG, GIF</li> <li>• Height and width: Sunny Portal will proportionally adjust the image depending on the size of the page layout.</li> </ul>
<b>System monitoring</b>	<p>You can present the following data:</p> <ul style="list-style-type: none"> <li>• Communication status between the PV system and Sunny Portal</li> <li>• Status of inverter comparison</li> </ul> <p><b>System monitoring:</b></p>  <p>Last contact 2 minutes ago    Yield yesterday: 54.14 kWh</p>
<b>Overview</b>	<p>You can present the following data:</p> <ul style="list-style-type: none"> <li>• Energy of the PV system</li> <li>• CO<sub>2</sub> saved by PV system</li> <li>• Compensation for PV system</li> <li>• Default image or custom image</li> </ul> <p><b>Overview with default image:</b></p>  <p>Date: 27/04/2010    Energy: 48,948.72 kWh</p> <p>CO<sub>2</sub> avoided: 48,291.36 kg    Revenue: EUR 26.69 Thousand</p>
<b>Text</b>	<p>You can enter text in the editor and format it as you know it from any regular word processing program. If you are familiar with HTML, you can switch to the source code view and enter or edit the HTML code directly. Java Script is not permitted.</p>

## 5.2.2 Creating a Table

You can select a table from the templates or create your own table. The following table configurations are available:

Table configuration	Meaning
<b>Default configuration for displaying system energy</b>	The table includes the total yields of all systems to which you have access. The total yields are shown for the current day, month, and year.
<b>Default configuration for displaying inverter energy</b>	The table includes the total yields of all inverters of the current system. The total yields are shown for the current day, month, and year.
<b>Default configuration for displaying the specific inverter yield</b>	The table includes the specific yields and the total yields of all inverters of the current system. The specific yields are shown for the current day, month, and year. The total yields are shown for the current day.
<b>Customized</b>	Create your own table with values and timelines according to your own ideas and requirements.

### Creating a Table with Default Configuration

1. Select desired default configuration.
  2. Select [Next].
  3. Select [Save].
  4. Select [Save].
- The table has been created and is displayed.

### Creating a Customized Table

1. Select "Customized".
2. Select [Next].
3. Select "Add device/system".
4. In the "System/devices" field, select a system or a device. HINT: In order to narrow your selection, choose a device type or "Systems" in the "Narrow selection" field.
5. Select [Submit].
6. In order to add further systems or devices, select "Add device/system" and repeat previous steps.
7. Select  [Go].
 

The "Channel configuration" page opens.
8. In order to add a heading for this table column or row, enter the heading in the "Name" field.
9. In the "Time unit" field, choose the period for which you would like to see the values.

10. In the "End date of display" area, activate the desired end date of the display. The following settings are possible:

<b>Current</b>	The values for the current date, e.g., current day, current month, are always shown.
<b>User-defined</b>	You can select the date for which to display the values, e.g., a certain day, a certain month.

11. Select desired channels in the "Channel" area.



### Selectable Channels

For devices, all channels which are transferred to Sunny Portal are available here. For a system, the calculated channels are available (CO<sub>2</sub> saved, energy, power, compensation, performance ratio, specific system yield).

The unit of the first channel selected determines the additional channels available for selection.

12. If more than 1 device or more than 1 system was added, the desired calculation method can be chosen in the "Result" field. The following settings are possible:

<b>Total</b>	Total of all channel contents within the presented period
<b>Min</b>	Minimum value of channel contents within the presented period
<b>Mean values</b>	Mean value of channel contents within the presented period
<b>Max</b>	Maximum value of channel contents within the presented period

13. Select [Submit].
- The "Page configuration" page opens.
14. In order to add an additional column or rows for channels, select "Add channel" and repeat previous steps.
15. In the "Orientation" area, activate the desired orientation of the table.
16. In the "Download file type" field, select the format for saving table data. This will let you save the data in the page view of the table to your computer via "Download". The following settings are possible:

<b>CSV</b>	File format that describes the structure of a text file for saving or easily exchanging simply structured data.
<b>ODS</b>	File format for tables in the Open Document format which makes it possible to exchange Office files between different applications and operating systems.
<b>XLSX</b>	File in the Excel Workbook format which is supported by Microsoft from Excel version 2007 and up.

17. Select [Save].
18. Select [Save].
- The table has been created and is displayed.

### 5.2.3 Creating a System Profile

1. In order to add a heading, enter the heading in the "Title" field.
  2. If several systems can be selected in the "System" field, select the desired system.
  3. Activate the desired fields for which to display the data.
  4. Select [Save].
  5. Select [Save].
- The system profile has been created and is displayed.

### 5.2.4 Creating an XY Diagram

#### Procedure:

- Configure y axis, x axis
- Configure time settings
- Set advanced configuration

#### Configure Y Axis, X Axis

1. Select a system or a device in the "Y axis", "X axis" area in the "System/devices" field. Only devices of the current system can be selected. HINT: In order to narrow your selection, choose a device type or "Systems" in the "Narrow selection" field.
2. Select a channel in the "Channel" field.



#### Selectable Channels

For devices, all channels which are transferred to Sunny Portal are available here. For a system, the calculated channels are available (CO<sub>2</sub> saved, energy, power, compensation, performance ratio, specific system yield). The unit of the first channel selected determines the additional channels available for selection.

3. Select [+].
- Table with the selected device or system is displayed.
4. In order to add further systems or devices, repeat the previous steps.



#### The Unit of the First Channel Selected Determines the Additional Channels Available for Selection

If the basic unit of the first selected channel is watts, the only channels selectable afterwards are those compatible with watts. The selection options are automatically limited accordingly by Sunny Portal.

5. Select the desired unit in the "Unit" field.

6. Select the channel type of the value in the "Value" field. The following channel types are available here, depending on the channel:

<b>Analog values</b>	
<b>Mean values</b>	The average value that the channel had for the set period.
<b>Maximum values</b>	Highest value that the channel had during the set period.
<b>Minimum values</b>	Lowest value that the channel had during the set period.

<b>Meter channels</b>	
<b>Meter change</b>	Increase within the period to be selected.
<b>Meter reading</b>	Current total meter reading of the value.
<b>Cumulative change</b>	Cumulative (= added) increase within the period to be selected.

7. Set automatic scaling or enter own scaling values:
- Automatic scaling: activate "Automatic scaling min" and "Automatic scaling max".
  - Custom scaling: enter scaling values into "Min" and "Max" fields.

### Configuring Time Settings

1. Select the desired display period of the diagram in the "Display period" field in the "Time settings" area.
2. Select in the "Number of periods" field how many display periods are to be shown.
3. In the "Time unit" field, select into which time units the periods should be divided.
4. In the "End date of display" area, activate the desired end date of the display. The following settings are possible:

<b>Current</b>	The values for the current date (e.g., current day, current month) are always shown.
<b>User-defined</b>	You can select the date for which to display the values (e.g., a certain day, a certain month).

## Making Advanced Configurations

1. In order to add a heading in the "Advanced configuration" area, enter heading in "Diagram name" field.
2. In the "Download file type" field, select the format for saving diagram data. The following settings are possible:

<b>CSV</b>	File format that describes the structure of a text file for saving or easily exchanging simply structured data.
<b>ODS</b>	File format for tables in the Open Document format which makes it possible to exchange Office files between different applications and operating systems.
<b>XLSX</b>	File in the Excel Workbook format which is supported by Microsoft from Excel version 2007 and up.

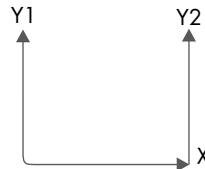
3. In order to show the legend by default for this diagram, activate "Show legend".
  4. In order to view the preview, open "Preview" area. Select [Update] to reload diagram after changes were made.
  5. Select [Save].
  6. Select [Save].
- The XY diagram has been created and is displayed.

### 5.2.5 Creating a Diagram

A diagram consists of at least one x axis (time settings) and one y1 axis; the y2 axis is optional. Several channel values with the same unit can be displayed on each y axis. Use the y2 axis if you want to display values with another unit than on the y1 axis.

#### Procedure:

- Configure y1 axis (y2 axis is optional)
- Configure time settings
- Set advanced configuration



## Configure Y1 Axis (Y2 Axis is Optional)

1. Select a system or a device in the "Y1 axis", "Y2 axis" area in the "System/devices" field. Only devices of the current system can be selected. HINT: In order to narrow your selection, choose a device type or "Systems" in the "Narrow selection" field.
2. Select desired channel in the "Channel" field.



### Selectable Channels

For devices, all channels which are transferred to Sunny Portal are available here. For a system, the calculated channels are available (CO<sub>2</sub> saved, energy, power, compensation, performance ratio, specific system yield). The unit of the first channel selected determines the additional channels available for selection.

3. Select [+].
  - Table with the selected device or system is displayed.
4. In order to add further systems or devices, repeat the previous steps.



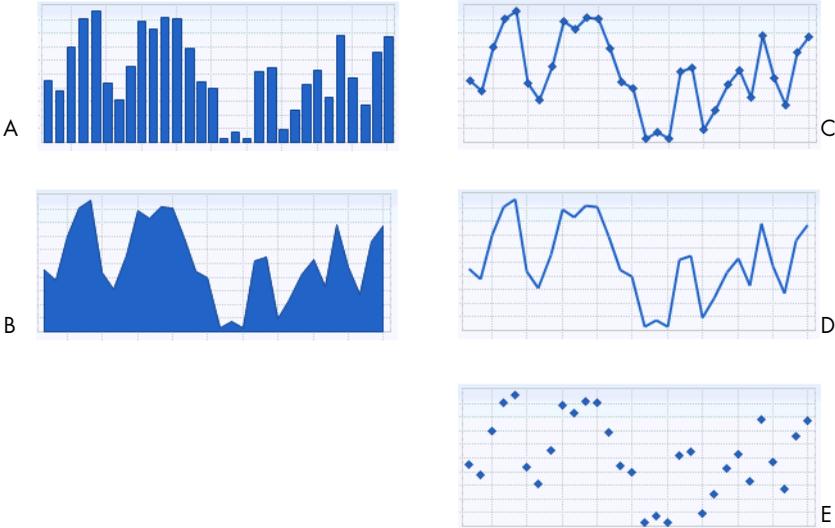
### Selecting Additional Channels

The unit of the first channel selected determines the additional channels available for selection. If the basic unit of the first selected channel is watts, the only channels selectable afterwards are those compatible with watts. The selection options are automatically limited accordingly by Sunny Portal.

5. Select the desired unit in the "Unit" field.
6. Select the channel type of the value in the "Value" field. The following channel types are available, depending on the channel:

Analog values	
Mean values	The average value that the channel had for the set period.
Maximum values	Highest value that the channel had during the set period.
Minimum values	Lowest value that the channel had during the set period.
Meter channels	
Meter change	Increase within the period to be selected.
Meter reading	Current total meter value of the value.
Cumulative change	Cumulative (= added) increase within the period to be selected.

7. Select display type in the "Chart type" field. The following display types are possible:



Position	Meaning
A	Bar
B	Area
C	Line with dots
D	Line
E	Dots without line

8. Set automatic scaling or enter own scaling values:
- Automatic scaling: activate "Automatic scaling min" and "Automatic scaling max".
  - Custom scaling: enter scaling values into "Min" and "Max" fields.

### Configuring Time Settings

1. Select the desired display period of the diagram in the "Display period" field in the "Time settings" area.
2. Select in the "Number of periods" field how many display periods are to be shown.
3. In the "Time unit" field, select into which time units the periods should be divided.
4. In the "End date of display" area, activate the desired end date of the display. The following settings are possible:

<b>Current</b>	The values for the current date (e.g., current day, current month) are always shown.
<b>User-defined</b>	You can select the date for which to display the values (e.g., a certain day, a certain month).

## Making Advanced Configurations

1. In order to add a heading in the "Advanced configuration" area, enter heading in the "Diagram name" field.
  2. In the "Download file type" field, select the download format.
  3. In order to show the legend by default for this diagram, activate "Show legend".
  4. In order to view the preview, open the "Preview" area. Select [Update] to reload diagram after changes were made.
  5. Select [Save].
  6. Select [Save].
- The diagram has been created and is displayed.

### 5.2.6 Creating a Slideshow

HINT: Select a page template with only 1 module on the page for the slideshow so that the slideshow will be shown in good quality.

#### Procedure:

- Select Picasa or Flickr photo album
- Integrate slideshow into Sunny Portal

#### Selecting a Picasa Photo Album

1. Register at [picasa.google.com](http://picasa.google.com).
2. If you have no Picasa photo album, create a photo album as described at Picasa.
3. Select photo album.
4. Select [Link to this album].
5. Select [Integrate slideshow].
  - A window opens.
6. "Integrate slideshow" text field.
7. Select the HTML code and copy it to the clipboard.
8. Leave Picasa and switch to Sunny Portal.

#### Selecting a Flickr Photo Album

1. Register at [www.flickr.com](http://www.flickr.com).
2. If you have no Flickr photo album, create a photo album as described at Flickr.
3. Select photo album.
4. Select [slideshow].
  - Slideshow begins.
5. Select [Publish].
  - A window opens.
6. Select [Embed HTML].

7. Select [Copy to clipboard].
8. Leave Flickr and switch to Sunny Portal.

### Integrating Slideshow into Sunny Portal

1. Call up page configuration of slideshow.
  2. In order to add a heading, enter the heading in the "Title" field.
  3. In the "Data source" field, select the name of the photo platform.
  4. Copy HTML code into the "HTML code" field.
  5. In order to see the preview, select [Preview].
  6. Select [Save].
  7. Select [Save].
- The slideshow has been created and is displayed.

## 5.2.7 Creating an Image

### Image Requirements:

- Maximum image size: 500 kB
- Possible image formats: JPG, PNG, GIF
- Height and width: Sunny Portal will proportionally adjust the image depending on the size of the page layout.

### Procedure:

- Upload an image from own computer to gallery
- Add image from gallery to page

### Uploading an Image from Own Computer to Gallery

1. Select [].
    - A new section opens up.
  2. Select [Browse].
    - The "Select file" window opens.
  3. Open desired image.
    - Path of the image is in the address bar.
  4. Select [Upload selected file].
  5. Repeat process in order to upload additional images.
- Image has been uploaded and is shown in the gallery.

## Adding an Image from the Gallery to the Page

1. In order to add a caption, enter caption in the "Title" field.
2. Select image by double-clicking on it.  
 Image is displayed.
3. In order to use a different image, select [Edit] and repeat previous steps.
4. Select [Save].
5. Select [Save].  
 Image has been added on the page and is displayed.

## 5.2.8 Creating System Monitoring

### Requirement:

System monitoring has been set (see Section 6.3 ).

1. In order to add a heading, enter the heading in the "Title" field.
2. Activate "Communication monitoring" and/or "Inverter comparison".
3. Select [Save].
4. Select [Save].  
 System monitoring has been set and is displayed.

## 5.2.9 Creating an Overview

### Image Requirements:

- Maximum image size: 500 kB
- Possible image formats: JPG, PNG, GIF
- Height and width: Sunny Portal will proportionally adjust the image depending on the size of the page layout.

1. Activate the field of the desired value.
2. Select size of the unit.
3. Adding an image:
  - In order to use the displayed image, activate "Automatically".
  - In order to use own image, activate "User-defined" and select [Browse].
4. Select [Save].
5. Select [Save].  
 The overview has been created and is displayed.

## 5.2.10 Creating Text

### Forbidden HTML tags:

<SCRIPT> (and therefore Java Script), <META>, <APPLET>, <FORM>, <HTML>, <HEAD>, <FRAME>, <IFRAME>.

1. In order to add a heading, enter the heading in the "Title" field.
  2. Enter desired text in the editor.
  3. Select [Save].
  4. Select [Save].
- The text has been created and is displayed.

### Example: Adding a Current Webcam Image

This example describes how to add the current webcam image with the editor. Every time the page is called up, the current image of the webcam is displayed.

#### Requirement:

The webcam program always saves the current image under the same name.

1. In order to add a heading, enter the heading in the "Title" field.
  2. Select [].
- The "Image properties" window opens.
3. Enter the URL of the webcam image in the "Select image" field.
  4. Select [OK].

## 5.3 Changing/Deleting Page Content

1. Select name of the page in the "Visualization" menu.
- The selected page opens.
2. Select the "Page configuration" tab.
  3. To change page contents:
    - Select [Edit] in the area of the page content to be changed.
    - Edit page content.
  4. In order to delete page content, select [Delete] in the area of the page content to be deleted.

## 5.4 Deleting Pages

You can delete all pages of the "Visualization" menu.

1. Select name of the page in the "Visualization" menu.  
 The selected page opens.
2. Select the "Page configuration" tab.
3. In order to delete the page, select [Delete page].
4. Click [Yes] to accept.

## 5.5 Changing the Page Name

1. Select name of the page in the "Visualization" menu.  
 The selected page opens.
2. Select the "Page configuration" tab.
3. Change the page name in the "Name of this page" field.
4. Select [Save].

## 5.6 Publishing Pages

You can publish the following pages:

- All pages of the "Visualization" menu
- The following pages of the "Name of your system" menu:
  - System profile
  - Energy and Power
  - Annual comparison

### Options for Publishing:

- Presenting pages at [www.SunnyPortal.com](http://www.SunnyPortal.com) in the "Public systems" area
- Presenting pages on the Internet

### Presenting Pages at Sunny Portal in the "Public systems" Area

1. Select the name of the desired page.  
 The selected page opens.
2. If you have chosen a page in the "Visualization" menu, select the "Page configuration" tab.
3. If you have chosen a page in the "Name of your system" menu, select "Configuration > Name of page".
4. Activate "Also release page on [www.sunnyportal.com](http://www.sunnyportal.com)" field.  
 The link "Send page by e-mail" is shown next to it.

5. In order to send the page by e-mail, select "Send page by e-mail". The window for sending e-mails opens. Make the following settings:
    - Enter the recipient's e-mail address in the "Recipient e-mail address" field.
    - In order to change the name of the sender, change entry in "Name of sender" field.
    - In order to add a message to the recipient, enter desired text in the "Your message to the recipient (optional)" field.
    - Select [Send e-mail].
  6. Select [Save].
  7. In order to see a preview, select "Open page in new window".
- The page has been published.

### Presenting Pages on the Internet

Every single one of your Sunny Portal pages has its own URL. You can use this URL to set a link from another web page to your page. You can call up the URL of the page as described below:

1. Select the name of the desired page.
  - The selected page opens.
2. Access the configuration:
  - If you have chosen a page in the "Visualization" menu, select the "Page configuration" tab.
  - If you have chosen a page in the "Name of your system" menu, select "Configuration > Name of page".
3. In order to see a preview, select "Open page in new window".
4. Copy URL from "Page URL" field and copy it as a link into a program for creating web pages (e.g., Microsoft Office Frontpage) or integrate it into your own web page through a so-called iframe.

## 5.7 Default Pages

### 5.7.1 Overview of Default Pages

Default pages are pages with the most important data, which Sunny Portal creates automatically when first sending your system data. The default pages are saved in the "Visualization" menu.

| Default page   | Description   |
|--|---|
| <b>System overview</b>   | Displayed data of entire system: <ul style="list-style-type: none"> <li>• CO<sub>2</sub> saved and energy for current day</li> <li>• Meter change of total yield per year in months</li> <li>• Meter change of total yield and mean power values for 2 days in hours</li> </ul>   |
| <b>Energy and Power</b>  | Displayed data of entire system: <ul style="list-style-type: none"> <li>• Mean values of power and meter reading of total yield for 7 days in hours</li> <li>• Meter change and meter reading of total yield for 7 days in days</li> </ul>  |
| <b>Specific system yield</b>                                     | Displayed data: <ul style="list-style-type: none"> <li>• Mean values of specific system yield of 1 month in days</li> <li>• Mean values of specific system yield of 1 year in months</li> </ul>   |
| <b>Performance ratio</b>   | Is created and configured automatically in the following cases: <ul style="list-style-type: none"> <li>• Sunny SensorBox is added to your Sunny Portal system.</li> <li>• Communication device sends data of a radiation and temperature sensor to Sunny Portal *).</li> </ul> Shows the following data of the entire system: <ul style="list-style-type: none"> <li>• Mean values of performance ratio of 1 month in days</li> <li>• Mean values of performance ratio of 1 year in months</li> </ul> |
| <b>Devices</b><br>> <b>"Name of inverter"</b><br><b>overview</b> | Displayed inverter data: <ul style="list-style-type: none"> <li>• Meter change of total yield of 1 year in months</li> <li>• Mean value of power of 1 day in hours</li> </ul>   |
| <b>Report</b><br>> <b>Daily system report</b>                    | Displayed data: <ul style="list-style-type: none"> <li>• Meter change of power for current day, current month, and current year</li> <li>• Meter change of total yield of 1 day in hours</li> </ul>   |
| <b>Report</b><br>> <b>Monthly system report</b>                  | Displayed data: <ul style="list-style-type: none"> <li>• Meter change of total yield for current month and current year</li> <li>• Meter change of total yield for 1 month in days</li> </ul>   |

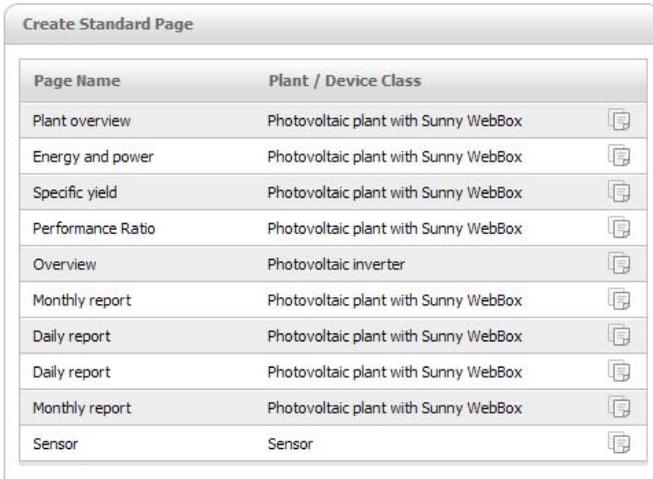
| Default page                         | Description  |
|--------------------------------------|--|
| <b>Sensors</b><br>> "Name of sensor" | Is created and configured automatically in the following cases: <ul style="list-style-type: none"> <li>• Sunny SensorBox is added to your Sunny Portal system.</li> <li>• Communication device sends data of a radiation and temperature sensor to Sunny Portal *).</li> </ul> |

\*The sensor must be adjusted manually in this case (see Section 7.3.4 "Changing the Performance Ratio" (page 51)).

### 5.7.2 Creating Default Pages

Sunny Portal creates the default pages automatically. Should you have accidentally deleted or changed a default page, you can create the default pages as described below:

1. Select "Configuration > Visualization".
  - The "Page configuration (groups)" page opens.
2. Select [  ] in the "Create default pages" area in the row of the selected page.



- The selected default page has been created in the "Visualization" menu.

### 5.8 Changing Page Arrangement in the Visualization Menu

This section describes how you can change the page arrangement in the "Visualization" menu and combine the pages in groups. This means you can create your own structure for the "Visualization" menu and arrange your pages.

### 5.8.1 Creating a New Group

After creating a new group, you can assign pages to the group by changing the page positions.

1. Select "Configuration > Visualization".
  - The "Page configuration (groups)" page opens.
2. Select [New group].
  - The "Configure group" page opens.
3. Enter a name for the group in the "Group title" field.
4. Select [Save].
  - New group can be seen in the directory tree and in the "Visualization" menu.

### 5.8.2 Changing the Positions of Pages and Groups

Groups are moved as groups, together with the pages assigned to them. The position of the "(without group)" group cannot be changed; it always remains in first place.

1. Select "Configuration > Visualization".
  - The "Page configuration (groups)" page opens.
2. Select "Activate positioning".
3. Select name of the group or page.
  - Arrow keys are now active. The name of the page or group is highlighted in gray.
4. Use the up or down arrow to move the page or group.
  - The page or group will move by one step.
5. Keep selecting the according arrow until the desired position has been reached.
6. Select [Save].

### 5.8.3 Deleting a Group



#### **Group and all subpages will be deleted permanently!**

If you delete a group, all the subpages assigned to the group will also be deleted permanently!

1. Select "Configuration > Visualization".
  - The "Page configuration (groups)" page opens.
2. Select the name of the group.
3. Select [New group].
  - The "Configure group" page opens.
4. Select [Delete] to delete the group permanently.

## 6 System Monitoring

### 6.1 Monitoring Functions

Sunny Portal offers the following monitoring functions for your PV system:

| Monitoring  | Sunny Portal function   | Section  |
|---|---|--|
| Events of the PV system                             | <b>System log</b><br>The system log will let you see messages for events of your PV system.   | 6.2 "System Log" (page 36)                             |
|   | <b>Report configuration</b><br>If you are using report configuration, you will receive an e-mail with the events of your PV system.   | 6.4 "Report Configuration" (page 41)                   |
| Yield, compensation, power, CO <sub>2</sub> saved   | <b>Report configuration</b><br>You can set that you will receive an e-mail with data of your PV system.   |  |
| Inverter yields outside of the tolerance            | <b>System monitoring - inverter comparison</b><br>If you activate inverter comparison, you will receive an e-mail as soon as the specific yield of an inverter is outside of the tolerance. | 6.3.3 "Configuring Inverter Comparison" (page 40)      |
| Communication between Sunny WebBox and Sunny Portal | <b>System monitoring - communication monitoring</b><br>If you activate communication monitoring, you will receive an e-mail if Sunny WebBox stops sending data to Sunny Portal.             | 6.3.2 "Configuring Communication Monitoring" (page 40) |

### 6.2 System Log

The page "Name of your system > System log" will show you messages from Sunny Portal and your PV system. These messages help you to identify system failures, for example. The number after the colon of the menu name shows the number of unread messages (system log: x, x = number of messages).

## 6.2.1 Calling up and Filtering Messages

You can filter messages in the system log in order to only call up certain messages.

1. Select "Name of your system".
2. Select "System log".
3. Configure the desired filters. The following settings are possible:

|                        |  |
|------------------------|--|
| <b>Go to</b>           | Here you can select the date for which to show the messages.   |
| <b>Status</b>          | <ul style="list-style-type: none"> <li>• Unapproved: unapproved messages are displayed (default setting).</li> <li>• Approved: approved messages are displayed.</li> <li>• All: approved and unapproved messages are displayed.</li> </ul>   |
| <b>System/devices</b>  | <ul style="list-style-type: none"> <li>• All: messages from Sunny Portal, from the system, from service, and from the devices are displayed.</li> <li>• Portal: messages from Sunny Portal are displayed.</li> <li>• System: messages from the current system are displayed.</li> <li>• Devices (e.g., SB4200TL): messages for the selected device are displayed.</li> </ul> |
| <b>Number per page</b> | Here you can select how many messages are to be displayed per page.  |
| <b>Type</b>            | Here you can select which messages should be displayed: info, warning, disturbance, error.   |

## 6.2.2 Approving Messages

You can approve messages in order to mark them as read. This will let you distinguish between read messages and new messages.

1. Activate fields next to messages that should be approved.
2. In order to select all messages, activate "Select all".
3. Select the red checkmark to approve a message immediately.
4. Select [Execute].

## 6.3 System Monitoring

### 6.3.1 Overview of System Monitoring

The page "Name of your system > System monitoring" gives you an overview of communication monitoring status and inverter comparison status.



| Position | Description  |
|----------|--|
| A        | Symbol for communication monitoring status   |
| B        | Symbol for inverter comparison status  |
| C        | Opens the according page for configuring communication monitoring or inverter comparison |

#### Communication Monitoring:

Sunny Portal offers communication monitoring for systems with the Sunny WebBox. At certain time intervals, Sunny Portal checks when Sunny WebBox has sent the data of your PV system to Sunny Portal. Should data transmission be interrupted, Sunny Portal will inform you via e-mail. How to configure communication monitoring is described in Section 6.3.2 "Configuring Communication Monitoring" (page 40). The following tables explains the meaning of the symbols for communication monitoring:

| Symbol | Meaning  |
|--------|--|
|        | Communication monitoring has not been activated. Symbol is shown in color if communication monitoring has been activated. Symbol in the circle shows the status of communication monitoring. |
|        | Communication between Sunny WebBox and Sunny Portal is ok. Time of last contact is displayed.  |

| Symbol  | Meaning  |
|---|--|
|  | Communication between Sunny WebBox and Sunny Portal is interrupted. The additionally displayed "Details" link gives you detailed information about the time of last contact with the Sunny WebBox. The following navigation options are available: <ul style="list-style-type: none"> <li>• Link to device properties</li> <li>• Link to parameters</li> <li>• Link to messages of the Sunny WebBox in the system log</li> </ul> |
|  | Stops sending of e-mail. Should the Sunny WebBox have sent no data to Sunny Portal for an extended period of time, a reminder will be sent by e-mail on up to 3 days in a row. You can stop sending of the e-mail by confirming the entry in the system log.   |
|  | Opens page for configuring communication monitoring.   |

**Inverter Comparison:**

Sunny Portal offers inverter comparison for systems with at least 2 PV inverters. Inverters of the Sunny Central type that are operating as a team are not supported. Based on the daily yield, Sunny Portal calculates the specific yield for every active inverter and compares it to the mean value of the specific yields of all inverters once a day. Should the specific yield be below a configurable tolerance, Sunny Portal will inform you by e-mail.

| Symbol  | Meaning  |
|---|--|
|    | Inverter comparison has not been activated. The symbol is shown in color if inverter comparison has been activated. The symbol in the circle shows the status of inverter comparison.  |
|   | Inverter yields are within the configured range. The yield of the last day is shown.   |
|  | Specific inverter yield is outside of tolerance for at least 1 monitored inverter. The additionally displayed "Details" link will let you read how high the specific yield of the affected inverter/s is and how high the comparison value from the mean value of all monitored inverters was. The following navigation options are available: <ul style="list-style-type: none"> <li>• Link to device properties</li> <li>• Link to messages in the system log</li> </ul> |
|  | Opens page for configuring inverter comparison.  |

## 6.3.2 Configuring Communication Monitoring

1. Select "Name of system > System monitoring".
2. Select [  ] in the "Communication monitoring" area.
3. Configure alarm. The following settings are possible:

|                                 |   |
|---------------------------------|---|
| <b>Off</b>                      | Data transmission is not monitored.   |
| <b>Liberal, tolerant, sharp</b> | Here you can set how long Sunny Portal should wait for the Sunny WebBox data before notifying you. The time period will be shown to you during configuration. |

4. Enter the recipient's e-mail address for notifications in the "Recipient" field. Separate multiple e-mail addresses by commas.
5. Activate in the "Monitoring" field for desired devices.
6. Select [Save].

## 6.3.3 Configuring Inverter Comparison

### Displaying the Inverters in Groups or Individually:

The inverters are shown in groups if they are of the same type, if the same tolerance has been set, and if the inverters are monitored. If at least 1 characteristic is different, the inverters will be listed individually.

1. Select "Name of system > System monitoring".
2. Select [  ] in the "Inverter comparison" area.
3. Enter the recipient's e-mail address for notifications in the "Recipient" field. Separate multiple e-mail addresses by commas.
4. Change preset generator power in the "Generator power" field if necessary. Sunny Portal calculates the preset generator power based on the maximum DC voltage of the inverters. You can configure the generator power for every inverter (see Section 8.2.5 "Configuring the Generator Power" (page 58)).
5. Change the preset tolerance into which the specific yield of the inverter may fall in the "Tolerance" field if required. If it is outside of the tolerance, Sunny Portal will inform you by e-mail.
6. Activate "Monitoring" field for desired inverters.
7. Select [Save].

## 6.4 Report Configuration

Reports contain system data or events for your PV system. Sunny Portal sends reports by e-mail.



### Receiving E-Mails as Text Messages on your Mobile Phone

You can also receive report e-mails as text messages through your mobile operator or have them forwarded as text messages from your inbox. Find further information in the "E-mail to SMS" technical information, available in the download area at [www.SMA.de/en](http://www.SMA.de/en).

### Direct Text Messages from the Sunny WebBox with Optional GSM Modem

If a GSM modem is installed, the Sunny WebBox can directly inform you about "Error" type events via e-mail or text message.



### Sunny Portal Considers Delayed Data in the Following Reports

If relevant data arrives after sending the report, Sunny Portal will consider the data in the following report.

There are the following 3 reports of which you can set 3 each:

| Report                          | Selectable channels   |
|---------------------------------|---|
| <b>Info report day 1 to 3</b>   | <ul style="list-style-type: none"> <li>• Daily yield (kWh)</li> <li>• Revenue today</li> <li>• Max. power today (kW)</li> <li>• CO<sub>2</sub> saved today (kg)</li> </ul>  |
| <b>Info report month 1 to 3</b> | <ul style="list-style-type: none"> <li>• Yield for the month (kWh)</li> <li>• Monthly revenue</li> <li>• Max. power for the month (kW)</li> <li>• CO<sub>2</sub> saved (kg) monthly</li> </ul>  |
| <b>Event report 1 to 3</b>      | <p>For the 3 event reports you can choose 4 message types from Sunny Portal, from the system, and from service:</p> <ul style="list-style-type: none"> <li>• Information</li> <li>• Warnings</li> <li>• Disturbances</li> <li>• Errors</li> </ul> |

## 6.4.1 Configuring Daily Info Report/Monthly Info Report

For the daily info report, the channels' data for the respective day is sent; for the monthly info report, the channels' data for the respective month. You can configure 3 monthly info reports and 3 daily info reports that contain different data. Every daily info report can be sent at a set time; the monthly info reports are sent at the end of the month.

1. Select "Configuration > Report configuration".
2. In the "Report configuration" field, select a daily info report or a monthly info report.
3. Select [Edit].
4. Configure the report. The following settings are possible:

|                          |   |
|--------------------------|---|
| <b>Activate report</b>   | If the report is activated, it will be sent to the set e-mail address at the set interval. You can also save report settings and activate the report later.   |
| <b>Recipient</b>         | In the "E-mail address(es):" field enter recipient's e-mail address. Separate multiple e-mail addresses by commas.  |
| <b>Interval</b>          | In the "Send report at:" field select the time at which you would like to receive the e-mail.   |
| <b>Content</b>           |   |
| <b>Channel selection</b> | Activate fields of channels that should be shown in the report.   |
| <b>Send report as</b>    | <p>Text: you will receive the e-mail with the data in text format.</p> <p>In the "Send data in:" area activate the fields in which the data should be shown in the e-mail.</p> <ul style="list-style-type: none"> <li>• Subject of e-mail: the data is shown in the e-mail's subject heading.</li> <li>• E-mail body: the data is shown in the e-mail body.</li> </ul> <p>HTML: you will receive the e-mail with the data in HTML format.</p> <p>PDF: you will receive the e-mail in text format and the data as a PDF attachment.</p> <p>In the "Portal page to be sent:" field select which Sunny Portal page should be sent with the e-mail. If you want to generate a default report page, save your report settings and create the report manually afterwards.</p> |

5. In order to send the test report to a set e-mail address, select [Send test report].
6. Select [Save].

## 6.4.2 Configuring an Event Report

You can configure 3 event reports that contain different events and are sent at different times. You can select 4 events of Sunny Portal and the system: information, warnings, disturbances, errors.

1. Select "Configuration > Report configuration".
2. Select an event report in the "Report configuration" field.
3. Select [Edit].
4. Configure the report. The following settings are possible:

|  |   |
|--|---|
| <b>Activate report</b>                       | If the report is activated, it will be sent to the set recipients at the set interval. You can also save report settings and activate the report later.   |
| <b>Recipient</b>                             | In the "E-mail address(es):" field enter recipient's e-mail address. Separate multiple e-mail addresses by commas.  |
| <b>Interval</b>                              | In order to receive the report hourly, activate the "Hourly" field. In order to receive the report daily, activate the "Daily" field and select the time. |
| <b>Content</b>                               |   |
|  | Activate the according fields of the events that the report should contain in the "Portal" and "System" rows.   |
| <b>Send report as</b>                        | Text: you will receive the e-mail with the data in text format.   |
|  | HTML: you will receive the e-mail with the data in HTML format.   |
|  | PDF: you will receive the e-mail in text format and the data as a PDF attachment.   |
| <b>Max. number of messages in one report</b> | Select the maximum of messages that may be included in one report.  |
|  | If empty reports should be sent as well, activate "Also send empty reports if no new events are available".   |

5. In order to send the test report to set e-mail addresses, select [Send test report].
6. Select [Save].

### 6.4.3 Regenerating a Report Manually

You can have the report for a certain date regenerated. After this, you can send the report to the e-mail addresses set in the report.

1. Select "Configuration > Report configuration".
  2. Select desired report in the "Report configuration" field.
  3. In the "Report date" field in the "Regenerate report manually" area, select for which date the report should be regenerated.
  4. Select [Generate].
- Next to the button you will see a message that the report has been sent.

## 7 System Properties

### 7.1 System Data

On the "Configuration > System properties" page you can view or edit general information on your PV system. Some of the information is displayed on the "System profile" page.

You can make the following settings, which are explained in the following sections:

- Change general system data
- Change system name
- Delete system
- Set power of system
- Change description of the system
- Create an image of the system

#### 7.1.1 Changing General System Data

1. Select "Configuration > System properties".
2. Select "System data" tab.
3. Select [Edit].
4. Change system data. The following settings are possible:

|                          |   |
|--------------------------|---|
| <b>Name</b>              | Name of the current system. The system identifier is used as the default system name. (Changing system name, see Section 7.1.2 "Changing the System Name" (page 46)). |
| <b>System identifier</b> | System identifier for the system currently selected. The system identifier is defined when you register the system.   |
| <b>Commissioning</b>     | Date on which the system was created in Sunny Portal.   |
| <b>Street address</b>    | Street address to which the system belongs.   |
| <b>Postal code/city</b>  | Postal code and city to which the system belongs.   |
| <b>Country</b>           | Country in which the system is located.   |
| <b>(Federal) state</b>   | (Federal) state in which the system is located.   |
| <b>Time zone</b>         | Here you can select the time zone.  |
| <b>Longitude</b>         | Longitude and latitude of the system location. In order to have geodata for location automatically entered from database, select "Search geodata".                    |
| <b>Latitude</b>          |   |
| <b>Altitude</b>          | Altitude of system location.  |

5. Select [Save].

## 7.1.2 Changing the System Name

The system identifier is used as the default system name. You can change the system name and give your system a name. If you have registered several systems at Sunny Portal, you will be able to distinguish better between systems with relevant names.

1. Select "Configuration > System properties".
2. Select "System data" tab.
3. Select [Edit].
4. In the "Name" field, enter the desired name for the system (e.g., "Smith House" or "WebBox system South").
5. Select [Save].

## 7.1.3 Deleting a System



### You cannot undo the delete process!

If you delete a system, all devices and data related to this system are permanently deleted!

1. Select "Configuration > System properties".
1. Select "System data" tab.
2. Select [Edit].
3. Select [Permanently delete system].
4. Select [Yes] in order to delete system permanently.

## 7.1.4 Configuring System Power

The system power is the sum of the power of all PV modules.

### Options for Configuring System Power:

- Entering system power directly
- Have system power calculated from sum of power of all inverters

### Entering System Power Directly

1. Select "Configuration > System properties".
2. Select "System data" tab.
3. Select [Edit].
4. Enter system power in the "System power kWp" field in the "Power" area.
5. In order to set the manufacturer of PV modules, select a setting in the "Manufacturer" field.
6. In order to set the module type, select a setting in the "Module type" field. Possible settings depend on selected manufacturer.
7. Select [Save].

## Having System Power Calculated from Sum of Power of all Inverters

1. Set power of individual inverters, see Section 8.2.5 "Configuring the Generator Power" (page 58).
2. Select "Configuration > System properties".
3. Select "System data" tab.
4. Select [Edit].
5. In the "Power" area, activate "Calculate system power from device properties" field.  
 System power is calculated and displayed.
6. Select [Save].

### 7.1.5 Changing the Description of the System

You can enter important properties of the system in the description. The editor can format text but does not support HTML. The text is also displayed on the "System profile" page.

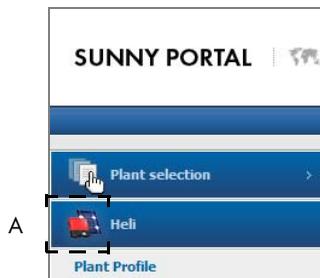
1. Select "Configuration > System properties".
2. Select "System data" tab.
3. Select [Edit].
4. Enter desired description in the "Description" area.
5. Select [Save].

### 7.1.6 Changing/Deleting the System Image

The system image is the image (A) in the menu "Name of your system". You can change this image. You can upload a picture from your computer or select an image from your own Sunny Portal image gallery. You can store own images in the gallery for later use on your pages.

#### Image Requirements:

- Maximum image size: 500 kB
- Possible image formats: JPG, PNG, GIF
- Height and width: Sunny Portal will proportionally adjust the image depending on the size of the page layout.



## Changing/Deleting the System Image

1. Select "Configuration > System properties".
2. Select "System data" tab.
3. Select [Edit].
4. In order to upload images from your own computer:
  - Select [Load image] in the "System image" area.
  - The "Upload file" window opens.
  - Select the desired image.
  - Select [Open].
  - Move gray squares with mouse to change the image section.
5. In order to select an image from the gallery:
  - Select [Select from gallery] in "System image" area.
  - The image gallery opens.
  - Select the desired image by double-clicking on it.
  - Move gray squares with mouse to change the image section.
6. Select [Save].

## Deleting the System Image

You can delete your own system images. If you have not created your own system image, Sunny Portal will show the default system image again.

1. Select "Configuration > System properties".
2. Select "System data" tab.
3. Select [Edit].
4. Select [No system image] in the "System image" area.
5. Select [Save].

## 7.2 Changing Operator Data

You can enter the data of the system operator in the system properties at the Sunny Portal, as described in this chapter. The name of the operator is displayed on the "System profile" page. The operator is a private or legal person who, for example, owns large-scale PV systems for business purposes and who initiates utilization without necessarily being a user.

1. Select "Configuration > System properties".
2. Select "Operator" tab.
3. Select [Edit].
4. Change operator data.
5. Select [Save].

## 7.3 Parameters

The section describes how you can change parameters for displaying your system in Sunny Portal. The settings are only for displaying your system in Sunny Portal and have no effects on your devices. The following sections describe the parameters and for which calculations Sunny Portal requires these parameters.

### 7.3.1 Changing Compensation

You can consume the electricity from the PV system yourself or sell it. Enter the cash amount for compensation or savings here. Sunny Portal calculates the amount of money you earn or save. In Germany, the feed-in tariff is regulated by the Renewable Energy Sources Act (EEG).

1. Select "Configuration > System properties".
2. Select "Parameters" tab.
3. Select [Edit].
4. Enter feed-in tariff.
5. Select currency.
6. Select [Save].

#### Automatically Calculating Compensation - only for Germany

1. Select [Calculate compensation according to EEG].
  - The "Calculate compensation" window opens.
2. Select system type.
3. Select year of PV system's initial commissioning.
4. Select [Submit].
  - The window closes. Feed-in tariff is displayed.
5. Select [Save].

### 7.3.2 Changing CO<sub>2</sub> Saved

The CO<sub>2</sub> factor indicates how much CO<sub>2</sub> is produced for every single kilowatt hour of electricity generated in the country. Depending on the technology used and the efficiency, the CO<sub>2</sub> factor can vary between the different utility grid operators in the region. You can find out the level of the CO<sub>2</sub> factor of the electricity supplied to you by contacting your utility grid operator. Sunny Portal uses the CO<sub>2</sub> factor to calculate, how much CO<sub>2</sub> was saved due to the environmentally friendly power generation of your PV system.

1. Select "Configuration > System properties".
2. Select the "Parameters" tab.
3. Select [Edit].
4. Enter CO<sub>2</sub> factor in the "Factor" field or adjust with slider.
5. Select [Save].

### 7.3.3 Changing the Forecast

Sunny Portal can forecast the annual yield of your PV system and present a monthly distribution.

#### Changing the Forecasted Annual Yield

The forecasted annual yield of the PV system is calculated from the specific annual yield (kWh/kWp) at the location of the PV system multiplied by the system power in kWp. The system power in kWp is also called nominal power.

You can obtain the specific annual yield for your system's location from irradiation maps. Local conditions such as, e.g., shadows or the system's orientation are not taken into account. You can obtain your system's power in kWp from your installer.

1. Select "Configuration > System properties".
2. Select the "Parameters" tab.
3. Select [Edit].
4. Enter specific annual yield in kWh/kWp in the "Specific annual yield" field.
5. Enter the system power:
  - In order to enter the system power manually, enter the system power in kWp in the "System power (nominal power)" field.
  - In order to have the system power calculated from the sum of power of all inverters, activate "Automatic calculation from device properties" field.
6. Select [Save].

#### Changing the Monthly Distribution of the Forecasted Annual Yield

The monthly distribution shows how the forecasted annual yield is distributed throughout the year. Given complete information about the system location, Sunny Portal can suggest a distribution. You can also enter the distribution manually.

1. Select "Configuration > System properties".
2. Select the "Parameters" tab.
3. Select [Edit].
4. In order to let Sunny Portal suggest a distribution, make the following settings:
  - Enter the system location if the "System location" field is empty.
  - Select [Suggest monthly distribution].
5. Enter the values into the "in %" fields in order to enter the distribution manually.
6. Select [Save].

### 7.3.4 Changing the Performance Ratio

The performance ratio is a measure of the quality of a PV system that is independent of location and is therefore often described as a quality factor. The performance ratio (PR) is given in percent and describes the relationship between the actual and target yields of the PV system. It therefore shows which proportion of the generated power is actually available after deducting energy losses (e.g., through thermal losses and cable losses) and the required operating power.

The closer the PR value determined for a PV system approaches 100 %, the more efficiently the respective PV system is operating. In real life, a value of 100 % cannot be achieved, as unavoidable losses always arise with the operation of the PV system (e.g. thermal loss due to heating of the PV modules). However, high-performance PV systems can reach a performance ratio of up to 80 %.

The parameters for the performance ratio are configured automatically when the first Sunny SensorBox is added to your Sunny Portal system. Normally you do not need to make any changes. You need to adjust parameters manually if you add further Sunny SensorBox devices for a system to the Sunny Portal, if the channel list has changed, or if you are replacing a Sunny SensorBox. The reason is that the "Performance ratio" default page in the "Visualization" menu is not updated automatically.

#### Adjusting the Radiation and Temperature Sensor Manually

1. Select "Configuration > System properties".
2. Select the "Parameters" tab.
3. Select [Edit].
4. Select the sensor in the "Radiation sensor" field based on the Sunny Sensor Box serial number.
5. Select the type of the radiation sensor. The following settings are possible:

|                  |                           |
|------------------|---------------------------|
| <b>ExtSollrr</b> | External radiation sensor |
| <b>IntSollrr</b> | Internal radiation sensor |

6. Select the sensor in the "Temperature sensor" field based on the Sunny Sensor Box serial number.
7. Select the type of the temperature sensor. The following settings are possible:

|                |                            |
|----------------|----------------------------|
| <b>TmpAmb</b>  | Ambient temperature sensor |
| <b>TmpMdul</b> | Module temperature sensor  |

8. Select [Save].

## 7.4 Changing Privacy Settings

SMA Solar Technology AG takes the protection of your data very serious. This applies to personal and system data. We guarantee that your data will be treated confidentially and will not be used by SMA Solar Technology AG or third parties without your explicit permission. You can specify to what extent SMA Solar Technology AG or third parties may use your data. At any time you can withdraw your permission to use your data for the future.

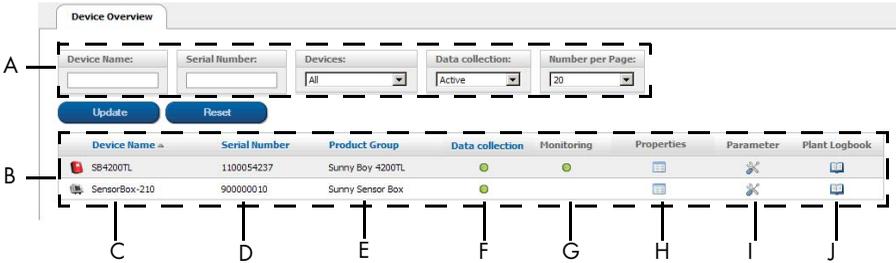
1. Select "Configuration > System properties".
2. Select "Privacy".
3. Select [Edit].
4. Activate or deactivate desired fields.
5. Select [Save].

# 8 Device Settings

## 8.1 Calling Up and Filtering the Device Overview

On the "Device overview" page you will receive information about all devices of your system and can make device-specific settings.

1. Select "Configuration > Device overview".
  - The device overview of all devices of the current system opens.



| Position | Meaning   |
|----------|---|
| A        | Settings for filtering the device overview  |
| B        | Device overview   |
| C        | Device name: name of the device   |
| D        | Serial number: serial number of the device  |
| E        | Product group: group of the device, e.g., Sunny Boy 4200TL  |
| F        | *1) Data collection: shows whether the data of this device should be used on your Sunny Portal pages, see Section 8.2.1 "Activating/Deactivating Devices (Device Replacement)" (page 56).                       |
| G        | *1) Monitoring: shows whether the device (inverter, Sunny WebBox) is participating in system monitoring, see Section 6.3 "System Monitoring" (page 38).   |
| H        |  Properties: opens tab with device properties of the device, see Section 8.2 "Accessing the Device Properties" (page 54).    |
| I        |  Parameters: opens the "Parameters" tab of the device, see Section 8.3 "Calling Up Parameters of a Device" (page 60).        |
| J        |  Logbook: opens "System log" tab with filtered messages for this device. System log, see Section 6.2 "System Log" (page 36). |

\*  = active,  = deactivated

2. Set the desired filters in order to filter the device overview. The following settings are possible:

|                        |  |
|------------------------|--|
| <b>Device name</b>     | Enter the complete device name or parts of a device name.  |
| <b>Serial number</b>   | Enter the complete serial number of the device or parts of the serial number.  |
| <b>Devices</b>         | Select the required device class, e.g., photovoltaic inverter or sensor.   |
| <b>Data collection</b> | Select the status of the required devices. <ul style="list-style-type: none"> <li>• All: activated or deactivated devices are shown.</li> <li>• Active: only activated devices are shown.</li> <li>• Deactivated: only deactivated devices are shown.</li> </ul> |

3. Select [Update].
4. Select [Reset] in order to delete filter settings. HINT: You can sort the devices in the table of the device overview in ascending or descending order by clicking on a blue entry in the table head (device, serial number, device active).

## 8.2 Accessing the Device Properties

1. Select "Configuration > Device overview".
  2. Select symbol for device properties in the device row.
- The device properties open.

### Explanation of Device Properties:

| Description                                   | Meaning  |
|---|--|
| <b>Data collection</b>                        | Shows whether the device has been activated in Sunny Portal (see Section 8.2.1 "Activating/Deactivating Devices (Device Replacement)" (page 56)). Activated devices are used in the Sunny Portal, deactivated devices are not used. <ul style="list-style-type: none"> <li> = device is activated in Sunny Portal.</li> <li> = device is deactivated in Sunny Portal.</li> </ul> |
| <b>Product group</b>                          | Group of the device, e.g., Sunny Boy 4200TL  |
| <b>IP address</b><br>(only for Sunny WebBox)  | If you click on the IP address, you can directly call up your Sunny WebBox user interface. In order to do this, you must first activate the Sunny WebBox IP address on your router. Please follow your router manual for this.   |
| <b>MAC address</b><br>(only for Sunny WebBox) | MAC address of Sunny WebBox  |
| <b>Serial number</b>                          | Serial number of device  |
| <b>Manufacturer</b>                           | Device manufacturer  |

| Description  | Meaning   |
|--|---|
| <b>Name</b>  | Device name<br>The serial number of the device is shown as the default name (changing the name, see Section 8.2.2 "Changing the Device Name" (page 57)).  |
| <b>Description</b>   | Room for remarks on the device (see Section 8.2.3 "Changing the Device Description" (page 57)).   |
| <b>Phase (L1, L2, L3)</b>                                  | Phases to which the device is connected (see Section 8.2.4 "Configuring the Phase" (page 57)).<br> = the device is connected to this phase.<br> = the device is not connected to the phase or the phase has not been configured yet.  |
| <b>Generator power</b>                                     | Sum of power of all PV modules that are connected to a PV inverter.   |
| <b>Communication monitoring</b><br>(only for Sunny WebBox) | Shows the settings of this Sunny WebBox for communication monitoring (see Section "Explanation of Device Properties - Communication Monitoring (only for Sunny WebBox):" (page 56)).<br> = calls up page for configuring communication monitoring, see Section 6.3.2 "Configuring Communication Monitoring" (page 40). |
| <b>Inverter comparison</b><br>(only for inverters)         | Shows the settings of the inverter for this inverter comparison (see Section "Explanation of Device Properties - Inverter Comparison (only for Inverters):" (page 56)).<br> = calls up page for configuring inverter comparison of all inverters, see Section 6.3.3 "Configuring Inverter Comparison" (page 40).      |

**Explanation of Device Properties - Communication Monitoring (only for Sunny WebBox):**

| Description        | Meaning  |
|--------------------|--|
| <b>Monitoring</b>  | Here you can activate or deactivate communication monitoring for this Sunny WebBox.                                    |
| <b>Alarm after</b> | Shows for how long there must be no contact between Sunny Portal and this Sunny WebBox until you receive an e-mail.    |
| <b>Interval</b>    | Shows how often the Sunny WebBox sends data to the Sunny Portal (configuration via Sunny WebBox user interface).       |
| <b>Period</b>      | Shows in which period the Sunny WebBox sends data to the Sunny Portal (configuration via Sunny WebBox user interface). |

**Explanation of Device Properties - Inverter Comparison (only for Inverters):**

| Description       | Meaning  |
|-------------------|--|
| <b>Monitoring</b> | Here you can activate or deactivate inverter comparison for this inverter.   |
| <b>Tolerance</b>  | Here you can enter the tolerance for this inverter into which the specific yield of this inverter may fall. If it is outside of the tolerance, Sunny Portal will inform you by e-mail. |

**8.2.1 Activating/Deactivating Devices (Device Replacement)**

You have the opportunity to deactivate devices (such as inverters and communication devices) at Sunny Portal if you have replaced a device, for example. The device and its data are then no longer displayed or processed at Sunny Portal. The device data is then no longer available for calculating or displaying channels.

1. Select "Configuration > Device overview".
2. Select symbol for device properties in the device row.  
 The device properties open.
3. Select [Edit].
4. In order to activate a device, activate "Data collection" field.
5. In order to deactivate a device, deactivate "Data collection" field.
6. Select [Save].

## 8.2.2 Changing the Device Name

The serial number of the device is displayed as the default device name.

1. Select "Configuration > Device overview".
2. Select symbol for device properties in the device row.  
 The device properties open.
3. Select [Edit].
4. Enter new name in the "Name" field.
5. Select [Save].

## 8.2.3 Changing the Device Description

1. Select "Configuration > Device overview".
2. Select symbol for device properties in the device row.  
 The device properties open.
3. Select [Edit].
4. Enter desired remarks for the device in the "Description" field.
5. Select [Save].

## 8.2.4 Configuring the Phase

You can configure the phase into which the inverter is feeding.

1. Select "Configuration > Device overview".
2. Select symbol for device properties in the device row.  
 The device properties open.
3. Select [Edit].
4. Activate according fields L1, L2, or L3 in the "Phase" area.
5. Select [Save].

## 8.2.5 Configuring the Generator Power

You only need to make the settings in this section if Sunny Portal is to calculate the entire power of your PV system. Sunny Portal calculates the system power from the inverter power (generator power).

### Options for Configuring the Generator Power:

- Entering the power of an inverter manually
- Configuring the power of an inverter through multiple strings

### Entering the Power of an Inverter Manually

1. Select "Configuration > Device overview".
2. Select symbol for device properties in the inverter row.  
 Device properties of the inverter open.
3. Select [Edit].
4. Enter inverter power in the "kWp" field under "Generator power".
5. Select [Save].
6. Activate calculation, see Section 7.1.4 "Configuring System Power" (page 46), Paragraph "Having System Power Calculated from Sum of Power of all Inverters" (page 47).

### Configuring the Power of an Inverter through Multiple Strings

1. Select "Configuration > Device overview".
2. Select symbol for device properties in the inverter row.  
 The device properties open.
3. Select [Edit].
4. Call up page for configuring the string:
  - Select [Add string] in order to add a new string.
  - In order to copy an existing string, select [Copy] in the string row and edit it afterwards.
  - Select [Edit] in the string row in order to edit an existing string. The menu for configuring the string opens.
5. Configure the string. The following settings are possible:

|                         |   |
|-------------------------|---|
| <b>Description</b>      | Enter name for the string   |
| <b>Manufacturer</b>     | Select the module manufacturer  |
| <b>Module type</b>      | Select the type of module<br>You must set the manufacturer first. The menu contents vary depending on the manufacturer you select.                          |
| <b>Module power</b>     | These data are entered automatically when you select the module type. You can enter changes into the fields using the arrows or your keyboard's arrow keys. |
| <b>Module surface</b>   |   |
| <b>Efficiency</b>       |   |
| <b>Number of module</b> | Enter number of modules per string  |

|                    |   |
|--------------------|---|
| <b>Azimuth</b>     | <p>Here you can enter the azimuth angle of the string's module surfaces. The azimuth angle indicates, in degrees, the amount by which the module surfaces deviate from an exact southern orientation.</p> <ul style="list-style-type: none"> <li>Tracking</li> </ul> <p>If your module surfaces track the sun automatically, activate this field.</p>   |
| <b>Tilt angle</b>  | <p>Here you can configure the tilt angle of the string's module surfaces. The tilt angle indicates, in degrees, the amount by which the module surfaces deviate from the horizontal.</p> <ul style="list-style-type: none"> <li>Optimized</li> </ul> <p>If your system is optimized based on the latitude, activate this field. The optimum orientation is 30 ° from the horizontal in Germany.</p> |
| <b>Description</b> | Enter remarks   |

6. Select [Submit].
  - The "Device Properties" page opens. String has been configured.
7. Select [Save].
8. Activate calculation, see Section 7.1.4 "Configuring System Power" (page 46), Paragraph "Having System Power Calculated from Sum of Power of all Inverters" (page 47).

## 8.2.6 Deleting a Device



**If you delete a device, all data of the device will be permanently deleted. Check first if it would be sufficient to simply deactivate the device.**

1. Select "Configuration > Device overview".
2. Select symbol for device properties in the device row.
  - The device properties open.
3. Select [Edit].
4. Select [Delete].
  - A confirmation prompt opens.
5. Select [Delete] to delete the device permanently.

## 8.2.7 Adding/Replacing Devices

You can add new devices to the Sunny Portal or replace devices as soon as the communication device sends data of the new devices to Sunny Portal. Sunny Portal detects the new devices and lists the new devices on the "System monitoring" page once. The wizard available here will let you add or replace devices in Sunny Portal.

## 8.3 Calling Up Parameters of a Device

The parameters are described in the respective manual of the device. You can only read the device parameters, not change them. If you want to change parameters, use the Sunny WebBox or the Sunny Explorer software by SMA Solar Technology AG.

1. Select "Configuration > Device overview".
  - The device overview of all devices of the current system opens.
2. Select symbol for parameters in the device row.
  - The device parameters open.
3. In order to view a parameter's history, select history symbol.

## 9 User Management

### 9.1 User Concept with Roles and Rights

You can create additional users in your Sunny Portal, so they will be able to call up your Sunny Portal. You can assign roles to users. Roles differ in the rights the user has in your Sunny Portal, for example, whether the user is authorized to create a new page. The following roles are possible:

- Guest
- Default user
- Installer
- System administrator

#### Overview of Roles and Rights

| Rights                                   | Role  |         |           |               |
|--|-------|---------|-----------|---------------|
|  | Guest | Default | Installer | Administrator |
| Login                                    | ✓     | ✓       | ✓         | ✓             |
| View pages                               | ✓     | ✓       | ✓         | ✓             |
| View and change user information         | ✓     | ✓       | ✓         | ✓             |
| Change the password                      | -     | ✓       | ✓         | ✓             |
| View system properties                   | -     | ✓       | ✓         | ✓             |
| View device properties                   | -     | ✓       | ✓         | ✓             |
| View the report configuration            | -     | ✓       | ✓         | ✓             |
| View, change, and delete pages           | -     | -       | ✓         | ✓             |
| View and change system properties        | -     | -       | ✓         | ✓             |
| View and change device properties        | -     | -       | ✓         | ✓             |
| View and change the report configuration | -     | -       | ✓         | ✓             |
| View and change calculated channels      | -     | -       | ✓         | ✓             |
| View the system log and confirm entries  | -     | -       | ✓         | ✓             |
| Import data                              | -     | -       | ✓         | ✓             |
| View user management                     | -     | -       | -         | ✓             |
| Create and delete users and assign roles | -     | -       | -         | ✓             |

## 9.2 Creating a New User



### User is Notified by E-Mail

When you create a new user, the user receives an e-mail indicating that he or she now has access to your Sunny Portal page under this e-mail address. If the new user is not registered at Sunny Portal yet, an automatically generated password will be sent additionally.

1. Select "Configuration > User management".
  2. Select [New user].
  3. In the "E-mail address:" field enter new user's e-mail address.
  4. In the "Roles" area, activate the desired role. The "Default user" role is activated by default.
  5. Select [Save].
- The new user has been created and receives an e-mail with access information.

## 9.3 Changing User Rights

1. Select "Configuration > User management".
2. Select symbol for editing in the user row.
3. In the "Roles" area, activate the desired role.
4. Select [Save].

## 9.4 Deleting a User



### Never delete the e-mail address of the communication product!

Never delete the user with the e-mail address through which the communication product (e.g., Sunny WebBox or Sunny Data Control) sends the data to Sunny Portal. Otherwise, the communication product will no longer be able to send data to Sunny Portal. If you want to enter a new e-mail address in the communication product, proceed as follows:

- Create user with the new e-mail address in Sunny Portal and assign "Administrator" or "Installer" role (see Section 9.2 "Creating a New User" (page 62)).
  - Enter the new e-mail address for data transmission to the Sunny Portal in the communication product.
  - Delete the user with the old e-mail address in Sunny Portal as described below.
1. Select "Configuration > User management".
    - The "User Management" page opens.
  2. Select symbol for deleting in the user row.
    - A confirmation prompt opens.
  3. Click [Yes] to delete the user.

## 9.5 Changing User Information

Every created user (except for "Guest") receives his own "User information" page. On this page, every user can enter his own data.

1. Select "User info/logout".
2. Select "User information".
3. Select [Edit].
4. Fill in fields.
5. Select [Save].

## 9.6 Changing the Password

Every created user (except for "Guest") can change his password for his Sunny Portal login.

1. Select "User info/logout".
2. Select "User information".
3. Select "If you want to change your password, please click here" **under the table.**
  - The "Change password" tab opens.
4. Enter the old password in the "Old password" field.
5. Enter the new password in the "New password" field.
6. Enter new password again in the "Repeat new password" field.
7. Select [Save].

## 10 Troubleshooting

| <b>Problem</b>   | <b>Cause</b>  | <b>Solution</b>   |
|--|---|---|
| <b>Pop-up window</b><br>The pop-up window does not open. | Pop-up windows are blocked by the web browser or additional programs (e.g. Google Toolbar). | Enable pop-ups in the web browser and possible additional programs. |

# 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:

- System name, system identifier, or e-mail address (see Section 7.1 ).
- Data logger type and serial number (see data logger manual)
- Data transmission method (network, analog, ISDN, GSM)
- If it is possible to dial in to the data logger, we require the dial number.

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