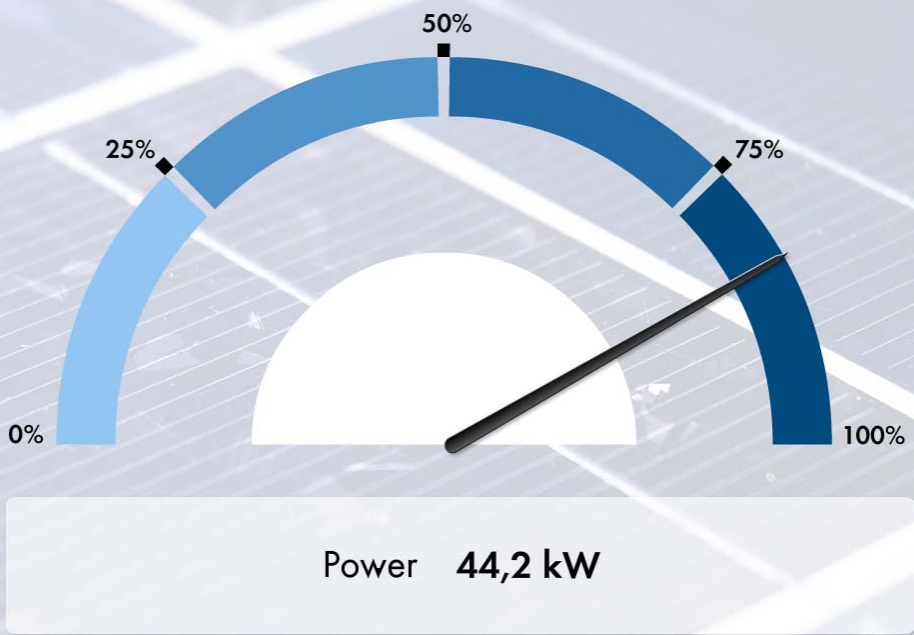




System Monitoring
Flashview 2.3
Technical Description



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Symbols in this document



Information

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

Table of Contents

1	Flashview 2.3	7
1.1	Validity	7
1.2	Supported Devices and Operating Systems	7
1.3	Additional Information	7
1.4	Function Overview	7
1.5	Source of Presentation Data	7
1.6	Presentation Slides	8
1.6.1	Energy	8
1.6.2	Power	8
1.6.3	Ecology and Reimbursement	9
1.6.4	Ambient Data	9
1.6.5	Customer Page	9
1.6.6	Slide with RSS Feed	9
1.6.7	Own Images	10
2	Starting Flashview for the First Time	10
3	Settings	11
3.1	Configuring the Basic Settings	11
3.2	Configuring Advanced Settings	13
3.2.1	Setting the CO ₂ Factor	14
3.2.2	Setting the CO ₂ Emissions	14
3.2.3	Setting the Smoothing of the Power Curve	14
3.2.4	Setting the Number Format	15
3.2.5	Setting the Weight Unit	15
3.2.6	Setting the Temperature Unit	15
3.3	Showing Additional Information	16
3.3.1	Displaying the Customer Page	17
3.3.2	Displaying the Energy Reimbursement	17
3.3.3	Displaying the RSS Feed	18

- 3.3.4 Displaying or Deleting the Logo 18
- 3.3.5 Changing the Background Image 19
- 3.3.6 Integrating Your Own Images into the Presentation 20
- 4 Resetting All Values 25**
- 5 Manually Controlling the Presentation 26**
- 6 Troubleshooting 27**
- 7 Contact 30**

1 Flashview 2.3

1.1 Validity

This manual is valid for Flashview version 2.3 and above.

1.2 Supported Devices and Operating Systems

Sunny WebBox

- Sunny WebBox from firmware version 1.41

Operating Systems

- Windows XP (32-bit and 64-bit), min. 1 GHz
- Windows Vista (32-bit and 64-bit), min. 1 GHz
- Windows 7 (32-bit and 64-bit), min. 1 GHz
- MacOS X, min. 1 GHz

1.3 Additional Information

You can find additional information on the avoidance of CO₂ in the following document in the download area at www.SMA.de/en:

- "CO₂ factor – factor for calculating the prevention of CO₂ during electricity generation".

1.4 Function Overview

Flashview is a free presentation software program for your PV plant data. Flashview displays the following content on the computer in the form of graphs:

- Yield values of the inverters
- Measured values of the Sunny SensorBox
- Individual customer data
- RSS feeds
- Own images

1.5 Source of Presentation Data

Flashview gathers the data for the presentation from the Sunny WebBox. Flashview can display the values for up to 10 Sunny WebBoxes.



Possibility of Data Deviation

The data displayed by Flashview may deviate from the electric current meter data.

- Sunny WebBox data must not be used for billing purposes.

1.6 Presentation Slides

Presentations in Flashview usually consist of at least a so-called standard presentation with the following slides:

- "Energy"
- "Power"
- "Ecology and Reimbursement"
- "Ambient Data"

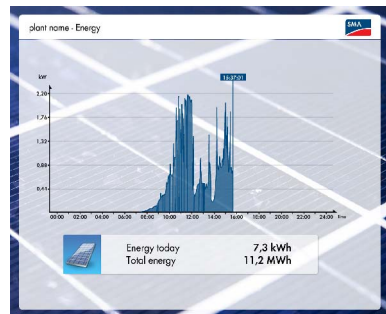
You can also optionally integrate the following slides into the presentation:

- Slide with customer data
- Slide with RSS feeds
- Own images

You can configure the settings for the slides in the settings window (see section 3 "Settings" (page 11)).

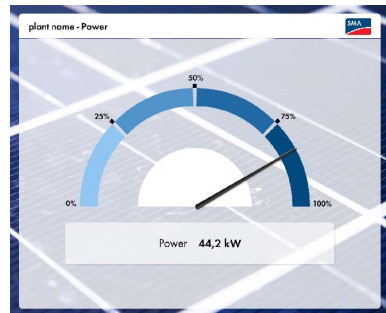
1.6.1 Energy

The "Energy" slide shows daily and total yields for your PV plant.



1.6.2 Power

The "Power" slide shows the current power for your PV plant.



1.6.3 Ecology and Reimbursement

The "Ecology and Reimbursement" slide informs you about the amount of CO₂ that was not emitted due to your PV plant.

You can additionally set the slide to show the financial yield for your plant.



1.6.4 Ambient Data

If a Sunny SensorBox is connected to a Sunny WebBox, Flashview displays the "Ambient Data" slide.

The "Ambient Data" slide shows the readings for solar radiation, module temperature, and wind speed.

If there is an ambient temperature sensor connected to your Sunny SensorBox, the slide also shows the ambient temperature.



1.6.5 Customer Page

In the presentation, you can display a slide with your individual data together with a logo of your choice.



1.6.6 Slide with RSS Feed

In the presentation, you can display a slide with RSS feeds.

An RSS feed ("Really Simple Syndication") is a service that automatically informs Internet users of new entries on a web site. Via an RSS feed, content from a web site is sent to the Internet user's computer. The content is provided with its headline, the first lines of the main text and a link to the original page.

1.6.7 Own Images

You can integrate your own images into the presentation. The slides with the images are displayed after the slides from the standard presentation.



2 Starting Flashview for the First Time

Requirement:

- On your computer, a zip program ^{*)} must be installed.



If you are switching to a new version of Flashview from an older one, you must reset all values upon first starting the new Flashview version (see section 4 "Resetting All Values" (page 25)).

1. If using Windows, use a zip program to unzip the folder **Flashview_V23_WIN.zip** to a desired directory.

or

If using MacOS X, use a zip program to unzip the folder **Flashview_V23_MAC.zip** to a desired directory.

2. Open the folder **Flashview_V23**.
 - If using Windows, double-click on the file **Flashview.exe**.
 - If using MacOS X, double-click on the file **Flashview.app**.

- Flashview starts, taking over the entire window.



When you start Flashview for the first time, the settings window opens. Before you can use the presentation, you must configure the basic settings in the settings window (see section 3.1 "Configuring the Basic Settings" (page 11)).

^{*)}Data compression program. If no zip program is installed on your operating system, you can download a zip program free of charge from the Internet.

3 Settings

You can configure the settings in the settings window. The settings window consists of the following tabs:

- "General"
- "Extended"
- "Additional Information"

3.1 Configuring the Basic Settings

Before you can use the Flashview presentation, you must configure the basic settings in the settings window.

Flashview 2.3

General | Extended | Additional Information

Sunny WebBox Address
192.168.0.168
IP address or url, e.g. 192.168.0.168 or webbox.dyndns.org.
Multiple WebBoxes can be entered separated by comma
Test

Plant Name
plant name

Max. Plant Power
2 kW

Language
English

Slide Show
Manual

Control
The following keys are available to control the presentation:

- Previous Slide
- Next Slide
- Settings
- Out

Reset all values | Cancel | Save changes

Figure 1: Settings window - "General" tab

1. Start Flashview.
2. If the settings window is not open, press the space bar.
 The settings window will open.
3. Select the **General** tab.
4. In the "Language" dropdown list, select the desired language.
5. In the "Sunny WebBox Address" entry field, enter the IP address or URL at which the Sunny WebBox is available.



Using Data From Up To 10 Sunny WebBoxes

Flashview displays the values for up to 10 Sunny WebBoxes.

- Enter the IP addresses or URLs of up to 10 Sunny WebBoxes in the "Sunny WebBox Address" entry field. Separate the addresses or URLs of several Sunny WebBoxes with commas.



Displaying Ambient Data

Flashview will display the measured values of the Sunny SensorBox only when the IP address or URL of the Sunny WebBox to which the desired Sunny SensorBox is connected is specified first in the "Sunny WebBox Address" entry field. If several Sunny WebBoxes, each with one connected Sunny SensorBox, are available in the PV plant, Flashview displays the measured values of the Sunny SensorBox connected to the Sunny WebBox that is specified first.

6. Test connection with Sunny WebBox. To do this, select the [Test] button.
 - Flashview displays "OK" to the right of the "Sunny WebBox Address" entry field. Flashview receives data from the Sunny WebBox.
 - Is Flashview displaying "ERROR" to the right of the "Sunny WebBox Address" field?
 - You may not have entered the IP address or URL of the Sunny WebBox correctly.
 - Ensure that the IP address or URL of the Sunny WebBox is correct.



Transferring Data When Accessing Several Flashview Applications on One Sunny WebBox

If you simultaneously query one Sunny WebBox with several computers using Flashview, the Sunny WebBox transmits the data to every computer individually. If too many Flashview applications query data from one Sunny WebBox, there may be issues with data transfer.

- Do not access a single Sunny WebBox with more than 5 Flashview installations simultaneously.
7. Enter the name of the PV plant in the "Plant Name" entry field. Flashview displays the name as the title of the presentation.
 8. Set the plant's maximum power in the "Max. Plant Power" entry field. Using this specification, Flashview scales the yield diagram in the "Energy" slide and power in the "Power" slide.
 9. In the "Slide Show" dropdown list, select the desired sequence of the presentation. Here, you can choose between a manual change or an automatic change every 5, 10, 20 or 30 seconds.
 10. Select [Save changes].
 - The changes are saved, and the presentation starts.

3.2 Configuring Advanced Settings

You can set the following values via the “Extended” tab:

- Values that form the basis for calculating the ecology values in the presentation
- Number formats and the units of weight, length, and temperature in the presentation

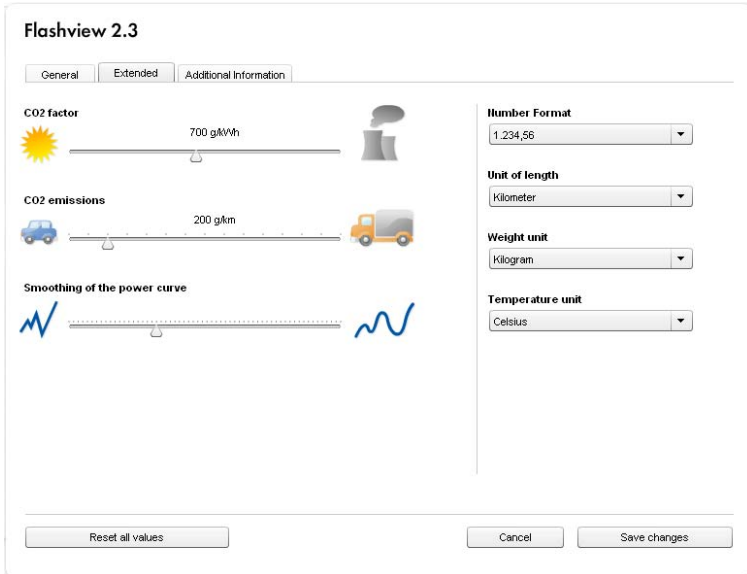


Figure 2: Settings window - “Extended” tab

3.2.1 Setting the CO₂ Factor

CO₂ is emitted as a result of burning fossil fuels to generate electrical energy. The CO₂ factor displays the amount of CO₂ emitted in generating one kilowatt hour of electrical energy.



Information on the Prevention of CO₂

You can find additional information on the avoidance of CO₂ in the following document in the download area at www.SMA.de/en:

“CO₂ factor – factor for calculating the prevention of CO₂ during electricity generation”.

On the basis of the CO₂ factor, Flashview calculates the quantity of CO₂ your PV plant saves.

Possible settings: 0 g/kWh – 1 500 g/kWh.

1. Find out from your electric power company how much CO₂ they emit in generating one kilowatt hour of electrical energy.
2. Use the “CO₂ factor” slider to set the amount of CO₂.

3.2.2 Setting the CO₂ Emissions

Flashview calculates the distance you could travel in a car for the quantity of CO₂ saved by your PV plant.

1. Ask your car manufacturer how much CO₂ your car emits per kilometer/mile covered.
2. Use the “CO₂ emissions” slider to set the CO₂ emissions of your car.
3. In the “Length unit” dropdown list, select the length unit for the distance covered. Select either “Kilometers” or “Miles”.

3.2.3 Setting the Smoothing of the Power Curve

During operation of your PV plant, brief intervals of shade can occur – for example, due to clouds. This causes a brief change in the yield of the PV plant.

- Use the “Smoothing of the power curve” slider to set the level of detail for short-term changes in the display of energy yields of the PV plant in Flashview.

3.2.4 Setting the Number Format

- In the “Number format” entry field, select the desired number format. Select either the number format **1.234,56** or the number format **1,234.56**.

3.2.5 Setting the Weight Unit

- In the “Weight unit” entry field, select the desired weight unit. Select either the weight unit **Kilograms** or the weight unit **Pounds**.

3.2.6 Setting the Temperature Unit

- In the “Temperature unit” entry field, select the desired temperature unit. Select either the temperature unit **Celsius** or the temperature unit **Fahrenheit**.

3.3 Showing Additional Information

Use the "Additional Information" tab to define what additional content is to be displayed in the presentation. You can display the following additional information:

- Customer page
- Reimbursement
- RSS feed

Flashview 2.3

General Extended **Additional Information**

Display customer page

Headline
Your Solar Energy Partner

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

Display RSS Feed

Headline
Newsfeed

URL of the RSS Feed
http://www.sma.de/de/rss.xml

Number of entries
5

Show Reimbursement

Reimbursement per kWh
0.0000

Currency
EUR

Reset all values Cancel Save changes

Figure 3: Settings Window - "Additional Information" tab

3.3.1 Displaying the Customer Page

Flashview can display a slide with your individual data including a logo of your choice in the presentation.

1. To display the customer page, activate the **Display customer page** checkbox.
 2. Enter the title of the customer page in the "Headline" entry field.
 3. To display a logo of your choice, see section 3.3.4 "Logo on the Customer Page" (page 18)).
 4. In the "Text" entry field, enter the text to be displayed next to your logo.
 5. Select [Save changes].
- The changes are saved, and the presentation starts.

3.3.2 Displaying the Energy Reimbursement

In the "Ecology and Reimbursement" slide, Flashview can display the financial yield for your PV plant.

1. Ask your utility grid operator how much they pay for one kilowatt hour of electricity.
 2. Activate the **Show reimbursement** checkbox.
 3. In the "Reimbursement per kW/h" field, enter the amount. You can enter the figure up to 4 decimal places.
 4. In the "Currency" dropdown list, select the desired currency.
 5. Select [Save changes].
- The changes are saved, and the presentation starts.

3.3.3 Displaying the RSS Feed

Requirement:

- Internet access
1. Activate the **Display RSS Feed** checkbox.
 2. In the “Headline” entry field, enter the title of the slide with RSS feeds.
 3. In the “URL of the RSS Feed” entry field, enter the URL of the RSS feed.
 4. In the “Number of entries” entry field, set the maximum number of RSS feed entries to be displayed by Flashview in the presentation.



Maximum Number of RSS Feeds

Flashview displays as many entries as can find space on the slide, as a maximum. If a higher number of RSS feeds has been set, Flashview does not display those that cannot find space on the slide.

5. To integrate a logo into a slide with RSS feeds, see section 3.3.4 “Logo on Slide with RSS Feeds” (page 19).
6. Select [Save changes].
- The changes are saved, and the presentation starts.

3.3.4 Displaying or Deleting the Logo

You can display a logo or a picture of your preference in the customer page and in the slide with the RSS feed.

Logo on the Customer Page

You need an image in PNG format. Recommended image size: 250 x 250 pixels.

1. Open the folder **Flashview_V23**.
2. Open the folder **graphic** and save the picture in the folder under the file name “logo.png”. The existing **logo.png** file will be overwritten.
3. Exit Flashview. To do so, press the [Esc] button on the keyboard.
4. Restart Flashview.
- Flashview will display the new logo.
5. To delete the logo again, delete the **logo.png** file from the “Flashview_V23/graphic” folder.

Logo on Slide with RSS Feeds

You need an image in PNG format. Recommended image size: 250 x 250 pixels.

1. Open the folder **Flashview_V23**.
2. Open the folder **graphic** and save the picture in the folder under the file name "rssfeed.png". The existing **rssfeed.png** file will be overwritten.
3. Exit Flashview. To do so, press the [Esc] button on the keyboard.
4. Restart Flashview.
- Flashview will display the new logo.
5. To delete the logo again, delete the **rssfeed.png** file from the "Flashview_V23/graphic" folder.

3.3.5 Changing the Background Image

You can change the background image of your presentation. For this, you need an image in PNG format. Recommended image size: 1 600 x 1 200 pixels. Hint: Flashview expands images bigger than 480 x 360 pixels to full-screen size. Images smaller than 480 x 360 pixels are displayed in original size.

1. Open the folder **Flashview_V23**.
2. Open the folder **graphic** and save the picture in the folder under the file name **background.png**. The existing **background.png** file will be overwritten.
3. Exit Flashview. To do so, press the [Esc] button on the keyboard.
4. Restart Flashview.
- Flashview will display the new background image.

Restoring the Default Background Image

- To restore the default background image, delete the "background.png" file from the **Flashview_V23/graphic** folder.

3.3.6 Integrating Your Own Images into the Presentation

You can integrate your own images into the presentation. Flashview displays the images centered in the presentation. You can optionally add an image caption. You can integrate any number of images into the presentation. The slides with images appear after the slides of the standard presentation.

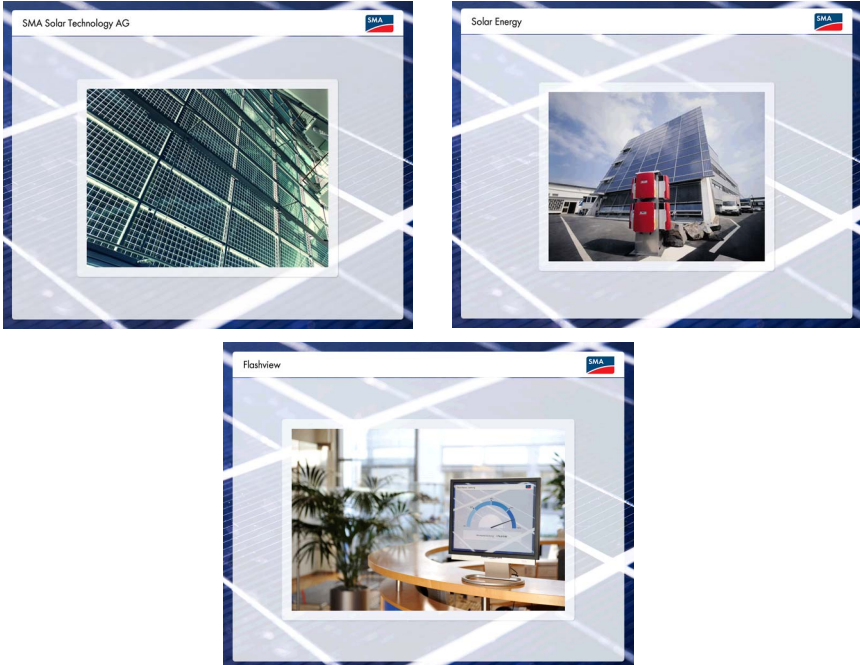


Figure 4: Slides with incorporated image and image caption (example)

Flashview obtains the images from the folder "graphic". In order for Flashview to recognize that the images saved in the "graphic" folder are to be displayed in the presentation, you must edit the "config_customSlides.json" file.

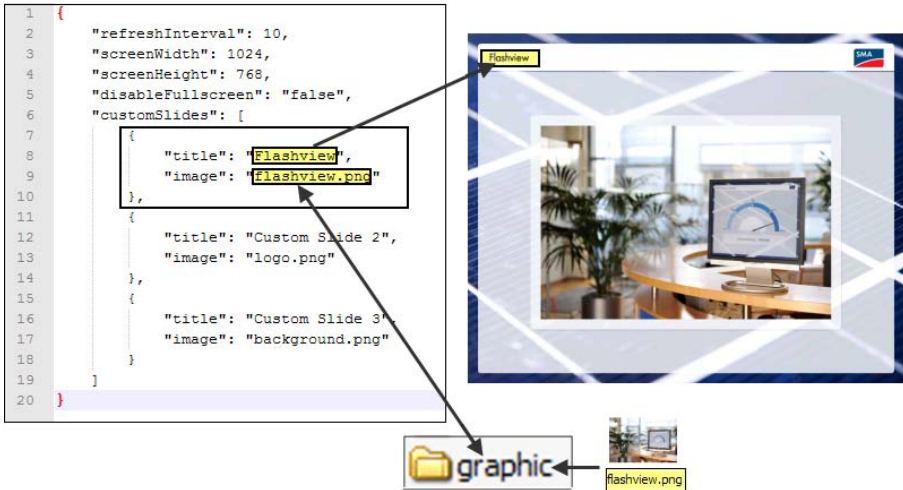


Figure 5: Reference of image caption and image for the presentation

Procedure:

- Save images.
- Edit the "config_customSlides.json" file.
- Overwrite the file "config_customSlides.json" with the file name "config.json".

Requirement:

The text editor "Notepad++" must be installed on your computer. You can download Notepad++ free of charge from the Internet.

Saving Images

1. Open the folder **Flashview_V23**.
2. Save the images in the folder "graphic", in PNG format.

Editing the "config_customSlides.json" File

The images appear in the presentation in the order in which you enter the image captions and the file names in the file "config_customSlides.json".

1. Open the folder **Flashview_V23**.
2. Open the folder **data**.
3. Right-click on the file **config_customSlides.json** and select **Edit with Notepad++** in the context menu.

The file "config_customSlides.json" opens.

```

1 {
2     "refreshInterval": 10,
3     "screenWidth": 1024,
4     "screenHeight": 768,
5     "disableFullscreen": "false",
6     "customSlides": [
7         {
8             "title": "Custom Slide 1",
9             "image": "rssfeed.png"
10        },
11        {
12            "title": "Custom Slide 2",
13            "image": "logo.png"
14        },
15        {
16            "title": "Custom Slide 3",
17            "image": "background.png"
18        }
19    ]
20 }

```



Setting the Correct Unicode Encoding

In order for Flashview to integrate your images into the presentation, the format "UTF-8" must be set in "Notepad++".

4. Entering an image caption:
 - If an image caption is to be displayed on a slide with one of your own images, overwrite the entry "Custom Slide 1" with the desired image caption.

```

1 {
2     "refreshInterval": 10,
3     "screenWidth": 1024,
4     "screenHeight": 768,
5     "disableFullscreen": "false",
6     "customSlides": [
7         {
8             "title": "Custom Slide 1",

```

- If no image caption is to be displayed on a slide with one of your own images, overwrite the entry "Custom Slide 1" with 1 space.

```

1 {
2     "refreshInterval": 10,
3     "screenWidth": 1024,
4     "screenHeight": 768,
5     "disableFullscreen": "false",
6     "customSlides": [
7         {
8             "title": " ",

```

5. Overwrite the entry "rssfeed.png" with the file name of the image that is to appear first in the presentation.

```

1 {
2   "refreshInterval": 10,
3   "screenWidth": 1024,
4   "screenHeight": 768,
5   "disableFullscreen": "false",
6   "customSlides": [
7     {
8       "title": "Custom Slide 1",
9       "image": "rssfeed.png"
10    },

```

6. To integrate further images into the presentation, overwrite the following entries next to "title" and "image" according to the template described above.

Example:

```

1 {
2   "refreshInterval": 10,
3   "screenWidth": 1024,
4   "screenHeight": 768,
5   "disableFullscreen": "false",
6   "customSlides": [
7     {
8       "title": "SMA Solar Technology AG",
9       "image": "sma.png"
10    },
11    {
12       "title": "Solar Energy",
13       "image": "sun.png"
14    },
15    {
16       "title": "Photovoltaics",
17       "image": "sunny boy.png"
18    }
19  ]
20 }
21

```

Figure 6: Edited entry in the "config_customSlides.json" file (example)

7. To integrate further images into the presentation, expand the "config_customSlides.json" file with any number of entries:
 - Enter a "," (comma) after the closing bracket "]" of the final entry.

```

1 {
2   "refreshInterval": 10,
3   "screenWidth": 1024,
4   "screenHeight": 768,
5   "disableFullscreen": "false",
6   "customSlides": [
7     {
8       "title": "Custom Slide 1",
9       "image": "rssfeed.png"
10    },
11    {
12       "title": "Custom Slide 2",
13       "image": "logo.png"
14    },
15    {
16       "title": "Custom Slide 3",
17       "image": "background.png"
18    }
19  ],
20 }

```

- Copy any number of available entries together with the opening bracket "{" and the closing bracket "}" to the clipboard (Ctrl+ C).
- Place the cursor next to the comma entered and press the Enter key.

```

1 {
2   "refreshInterval": 10,
3   "screenWidth": 1024,
4   "screenHeight": 768,
5   "disableFullscreen": "false",
6   "customSlides": [
7     {
8       "title": "Custom Slide 1",
9       "image": "rssfeed.png"
10    },
11    {
12      "title": "Custom Slide 2",
13      "image": "logo.png"
14    },
15    {
16      "title": "Custom Slide 3",
17      "image": "background.png"
18    },
19  ]
20 }
21 }

```

- Paste the entry from the clipboard (Ctrl+ V).
 - Overwrite the entries next to "title" and "image" according to the above template.
8. Save and close the "config_customSlides.json" file.

```

1 {
2   "refreshInterval": 10,
3   "screenWidth": 1024,
4   "screenHeight": 768,
5   "disableFullscreen": "false",
6   "customSlides": [
7     {
8       "title": "Custom Slide 1",
9       "image": "rssfeed.png"
10    },
11    {
12      "title": "Custom Slide 2",
13      "image": "logo.png"
14    },
15    {
16      "title": "Custom Slide 3",
17      "image": "background.png"
18    },
19    {
20      "title": "Custom Slide 2",
21      "image": "background.png"
22    }
23  ]
24 }

```

Overwriting the File "config_customSlides.json" with the File Name "config.json"

1. In the "graphic" folder, select and delete the **config.json** file.
2. Overwrite the file **config_customSlides.json** with the file name **config.json**.
3. Reset all values (see section 4 "Resetting All Values" (page 25)).
4. Flashview displays the integrated images in the presentation.

4 Resetting All Values

If you have switched from an older Flashview version to a new one, or if you edit the "config.json" file or the "lang.xx.json" file during the presentation, Flashview will not adopt the changes immediately. To make sure that Flashview will adopt the changes, you must reset all values:

1. Press the space bar on the keyboard.
 - The settings window will open.
2. Select the **General** tab.
3. In the "Sunny WebBox Address" entry field, copy the IP addresses or URLs of the entered Sunny WebBoxes to the clipboard (Ctrl+ C). This saves the entries.
4. Select the [Reset all values] button.
- Flashview resets all values. All fields are empty. The drop-down list selections are all reset to a default setting.
5. In the "Sunny WebBox Address" entry field, paste the IP addresses or URLs of the Sunny WebBoxes from the clipboard (Ctrl+ V).
6. In the "Language" dropdown list, select the desired language.
7. In the "Plant Name" entry field, enter the name of the PV plant.
8. In the "Max. Plant Power" entry field, set the plant's maximum power.
9. In the "Slide Show" dropdown list, select the desired sequence of the presentation.
10. Select [Save changes].
- Flashview adopts the changes. The presentation starts.

5 Manually Controlling the Presentation

You can manually control the presentation using the keyboard:



Previous Slide



Next Slide



Settings



Quit

6 Troubleshooting

Problem	Cause	Rectification
Flashview starts and displays an empty background image.	You started Flashview.exe from the zip file.	<ul style="list-style-type: none"> Before starting Flashview, you must decompress the files onto your computer using a zip program.
Flashview starts and shows no data from your PV plant.	Depending on your computer's system usage, it may take some time before the visualization of your PV plant data begins.	<ul style="list-style-type: none"> Wait until the visualization of your PV plant data begins.
Flashview does not function correctly after you have switched from an older Flashview version to the new one.	Flashview is still using the settings from an older Flashview version, which are not compatible with the new version.	<ul style="list-style-type: none"> Reset all values (see section 4 "Resetting All Values" (page 25)).
Flashview does not display the images which have been integrated into the presentation.	The entries in the "config.json" file are not separated by commas.	<ul style="list-style-type: none"> Make sure that the entries in the "config.json" file are separated by commas.
	Opening and closing elements ([], {}, "") are missing in the "config.json" file.	<ul style="list-style-type: none"> Check whether opening and/or closing elements ([], {}, "") are missing in the "config.json" file. If opening and/or closing elements ([], {}, "") are missing, supplement the missing elements.
	The file names for the images in the "config.json" file do not correspond to the file names for the images in the folder "graphic".	<ul style="list-style-type: none"> Check that the file names for the images in the "config.json" file correspond to the file names for the images in the folder "graphic". If the file names for the images in the "config.json" file do not correspond to the file names for the images in the folder "graphic", adjust the file names so that they correspond.

Problem	Cause	Rectification
	The format "UTF-8" is not set in "Notepad++".	<ul style="list-style-type: none"> Make sure that the format "UTF-8" is set in "Notepad++".
Flashview starts and shows the SMA logo in the middle of the screen.	Flashview does not receive any data from the Sunny WebBox.	<ul style="list-style-type: none"> Check the connection to the Sunny WebBox in the settings window using the [Test] button. Correct the IP addresses or the URLs for the Sunny WebBox in Flashview, or conform the settings for the router and firewall. In Windows: if you use a proxy server, you must change the proxy settings in Internet Explorer. IMPORTANT: you must still change the proxy settings in Internet Explorer, even if you use another web browser. <ol style="list-style-type: none"> Open Internet Explorer and select Tools > Internet Options > Connections > LAN settings. Activate the Use a proxy server for your LAN checkbox. In the Address entry field, enter the address of the proxy server.
The "Energy", "Power" and "Ecology and Reimbursement" slides show no values. Flashview displays only the measurement data from the Sunny SensorBox.	The power chosen for your PV plant is too high.	<ul style="list-style-type: none"> Check the maximum plant power in the Flashview settings window and select a lower value if required (see section 3.1).
	Inverters do not feed in, e.g. at night.	<ul style="list-style-type: none"> Make sure that the inverters are feeding in.

Problem	Cause	Rectification
Flashview displays no ambient data.	The address for the Sunny WebBox with the connected Sunny SensorBox is not the first entry in the "Sunny WebBox Address" entry field in the settings window.	<ul style="list-style-type: none"> Ensure that the IP address or URL of the Sunny WebBox connected to the Sunny SensorBox is entered first in the "Sunny WebBox Address" entry field in the settings window.
	Sunny SensorBox is not correctly connected to Sunny WebBox.	<ul style="list-style-type: none"> Ensure that the Sunny SensorBox is correctly connected to the Sunny WebBox.
Flashview displays fewer RSS feed entries than the amount set in the settings window.	The RSS feed entries are so long that Flashview cannot display all entries.	-
The RSS feed entries look different from the way in which they appear on the web site of the RSS feed.	First, Flashview attempts to display the content of the "description" tag for the RSS feed. In the "description" tag for the RSS feed, there is a shortened version of the entry.	-
	If the RSS feed has no "description" tag, Flashview shows the content of the "content" tag. This corresponds to the appearance on the web site of the RSS feed.	-

7 Contact

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

- Flashview version number
- Serial number and firmware version of the Sunny WebBoxes
- Serial number and firmware version of the Sunny SensorBoxes
- Operating system of your computer

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