

GB Installation and Operating Manual



PLATINUM PV-Monitor

PLATINUM PV-Monitor

Thank you for purchasing a PLATINUM PV-Monitor.

In this instruction, we have compiled all information that is important for installation and operation.

If you still have any trouble, please call our service hotline.

Service hotline

The Diehl-Controls service hotline is accessible as follows:

Tel	+49 (0) 700 33 66 99 22
Fax	+49 (0) 700 33 66 99 77
E-mail	service.platinum@diehlako.com

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PLATINUM PV-Monitor

Symbols

1 Symbols

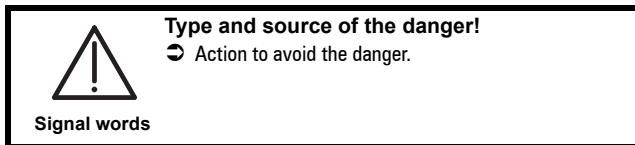
1.1 Warning notices

Classification of warning notices

The warning notices differentiate between three types of dangers indicated by the following signal words:

- **Caution** warns of material damage.
- **Warning** warns of bodily harm.
- **Danger** warns of a danger to life.

Layout of the warning notices



1.2 Other symbols

Instructions

Layout of instructions:

- ☞ Instruction to do something.

Result of the action, if necessary.

Lists

Layout of bulleted lists:

- List level 1
 - List level 2

Layout of numbered lists:

1. List level 1
2. List level 1
 - 2.1 List level 2
 - 2.2 List level 2

2 Safety and dangers

- Observe operation instructions.

3 Intended use

- Use PV-Monitor exclusively for the evaluation of PLATINUM inverters.
- Evaluate exclusively PLATINUM inverters produced after January 2007.

4 Function

4.1 Application possibilities

- ➔ Recording inverter data (exclusively in connection with CommStick).
- ➔ Saving inverter data on the PC.
- ➔ Evaluation of power and yield of the plant total or of selected inverters during different periods of time.
- ➔ Display of the configuration and setting of the graphic.
- ➔ Exporting the data in different formats.

5 Installation

5.1 System requirements

- ➔ PC with system software Windows 2000/XP/Vista
- ➔ Microsoft .Net Framework Revision 2.0
- ➔ 1 free USB connection (USB 1.1 or higher)
- ➔ 64 MB of free hard-disc storage unit
- ➔ recommended processor power 800 MHz

5.2 Included in delivery

- ➔ CommStick
- ➔ USB extension cable
- ➔ EIA 485 bus cable
- ➔ CD-ROM PV-Monitor PC software and Microsoft .Net Framework Revision 2.0

PLATINUM PV-Monitor Installation

5.3 Connector to inverter

- Connect EIA 485 bus cable to the network connector of the CommStick.
- Connect EIA 485 bus cable to the network connector of the inverter.

5.4 Connector to PC

- Connect CommStick to the USB connector of the PC.
- If required, use the USB extension cable supplied with the system.

5.5 Software installation

Prior to software installation:

- Ensure that Microsoft .Net Framework Revision 2.0 is installed. If required, install from CD or download from www.microsoft.com and install.
- Put installation CD-ROM into CD-ROM drive.

Installation application starts automatically.

If installation application does not start automatically:

- Select start → perform... .
- Insert the following:
 - F:\setup.exe
- Click on **OK**.

Note

F is the drive letter of the CD-ROM drive. Adapt this drive letter according to PC.

6 Operation

It is possible to operate the PV-Monitor software in a limited demo mode without a CommStick. Readout of inverter data is only possible if a CommStick is connected.

Note

6.1 Initial application start

To start PV-Monitor:

➤ Double-click on PV-Monitor icon on desktop.

- or -

➤ Start → applications → PLATINUM tools → PLATINUM
Select PV-Monitor.

After start of application:

→ PV-Monitor tries to find CommStick.

If PV-Monitor cannot find a CommStick:

- PV-Monitor switches to demo mode.
- No data from the PV plant are available.
- Display **Current** with the demo plant data appears.

If PV-Monitor finds a CommStick:

- PV-Monitor tries to find inverters and read out current data.
- Display **Inverter search** appears.

Inverter search



Fig. 1 Display inverter search

If inverter search is not required or to open the demo plant:

- Click on **Cancel**.
- PV monitor opens demo plant.

If inverter search and reading of current data is not required:

- Click on **No**.

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Display **Current** of the demo plant appears.

To perform an inverter search and read out current data:

➤ Click on **Yes**.

PV monitor starts inverter search.

If PV-Monitor cannot find an inverter:

- ➔ It is possible to use PV-Monitor with a limited functional range.
- ➔ Exclusively data saved in the PV-Monitor database are available.

If PV-Monitor finds one or several inverters:

- ➔ It is possible to use PV-Monitor with the complete functional range.
- ➔ PV-Monitor reads out inverter data.

To display the readout data:

- Select register **Settings**.
- ➔ Set up a new PV plant in PV-Monitor (see 6.7 Settings).

Note

After 10 minutes respectively, PV-Monitor performs an inverter search and loads current inverter data.

6.2 Start PV-Monitor

To start PV-Monitor:

➤ Double-click on PV-Monitor icon on desktop.

- or -

➤ Start → application → PLATINUM tools → PLATINUM
Select PV monitor.

After application start:

→ PV-Monitor tries to find a CommStick.

If PV-Monitor finds a CommStick:

→ PV-Monitor opens the plant that was used most recently.

→ PV-Monitor reads out inverter data.

If PV-Monitor cannot find a CommStick:

→ PV monitor switches to demo mode.

→ No data from the PV plant are available.

→ Display **Current** with the demo plant data appears.

PLATINUM PV-Monitor Operation

6.3 Status bar

Shows information

- ➔ about the current connection.
- ➔ the data reconciliation status.



Fig. 2 status bar

- (1) connection status
- (2) progress data reconciliation

connection status

Status	Colour	Operating status
offline	red	Communication with plant not possible (connection interrupted). PV-Monitor shows only data up to the data set read in most recently.
online	-	Data connection established. PV-Monitor determines online data.
data descriptions	-	PV-Monitor loads data descriptions.
load plant sum	-	PV-Monitor reads all saved inverter sums starting from the data set saved in PV-Monitor most recently.
load detail data	-	PV-Monitor reads all saved inverter data starting from the data set saved in PV monitor most recently.
inverter search	-	PV-Monitor effects inverter search.
export data	-	PV-Monitor performs data export.

When the connection to the inverter is established, PV-Monitor transfers data from the inverter to the PV-Monitor database (download). The time required for the data transfer depends on the time of the most recent data transfer. The data transfer can take several minutes.

To cancel the data transfer:

- ➔ Click on **Cancel Download**.

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The data are not transferred completely if the download was cancelled.

Note

Diehl-Controls recommends to transfer data regularly every few days.

6.4 Current

➔ Select register **Current**.

Display shows the following information:

- ➔ current inverter status
- ➔ current inverter power



Fig. 3 Display Current

Inverter status

Shows as a graphic:

- ➔ inverter status and power
- ➔ time of measurement
- ➔ power currently emitted by the inverters
- ➔ operational or switched-off inverters

Switched-off inverters are displayed as offline.

Note

For information about an inverter:

- ➔ Position cursor on the bar of the desired inverter.

PLATINUM PV-Monitor

Operation

Inverter details

Note

If more than 10 inverters are installed, PV-Monitor shows a scrollbar. Display further inverters by scrolling.

Indicates detailed information about inverters.

To indicate inverter details of an inverter:

☞ Click on the bar of the desired inverter.

To export the graphic of inverter details:

☞ Right-click to open context menu.

☞ Select copy, save picture as ..., page setup ... or print

Display

→ display total power

→ Shows the power of PV plant total as a single column additionally () or shows the power of individual inverters exclusively () .

→ Power in Watt

→ Shows the inverter power as absolute values.

→ Power in %

→ Shows the inverter power as percental values.

6.5 Reporting

➤ Select register **Reporting**.

Display shows an evaluation graph of the recorded measured values from the PV-Monitor database.

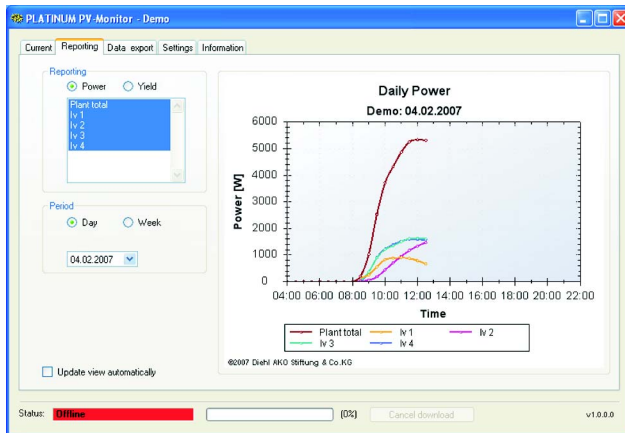


Fig. 4 Display Reporting

The values of the individual inverters and of the plant total are shown in different colours. The legend below the graph indicates the colour attribution. Changing the colours see 6.7 Einstellungen.

Note

When the cursor points at a measuring point:

➔ The measuring value is indicated.

To change the scale and zero-point of the diagram axes:

- Position cursor on diagram.
- Left-click on diagram.
- Change scale and zero-point with the mouse wheel.

- or -

- Position cursor on diagram.
- Left-click on diagram and keep pressing mouse key.
- Select the display range by moving the mouse.

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To show original scale and zero-point of the diagram axes:

- Right-click to open context menu.
- Select Cancel all zoom or turn actions.

Note

PV-Monitor saves read out data on the PC. It is possible to display power and yield for all saved data. At the initial data readout from the inverters, PV-Monitor shows the power progress of the last 30 days at most. For any previous days, PV monitor only shows the yield.

Evaluation

- ➔ power
 - ➔ Show power of selected inverters.
 - ➔ measuring unit: W
- ➔ yield
 - ➔ Show the yield of the selected inverters.
 - ➔ measuring unit: kWh
- ➔ selection
 - ➔ Select inverter for graphic evaluation.

Period

- ➔ day
 - ➔ Limit the evaluation period to a day.
- ➔ week
 - ➔ Limit the evaluation period to a week.
- ➔ month
 - ➔ Limit the evaluation period to a month.
- ➔ year
 - ➔ Limit the evaluation period to a year.
- ➔ period selection
 - ➔ Select evaluation period.

Update view

- ➔ Update view
 - ➔ PV monitor shows the latest of the currently transmitted data corresponding to the selected period.
 - ➔ PV monitor shows the saved data corresponding to the selected period.

Note

Changing the period cancels the selection of update view.

Types of evaluation

The following types of evaluation are available after the period selection:

- daily power evaluation
 - Shows the daily power of the selected inverters as a line diagram.
- daily yield evaluation
 - Shows the daily yield of the selected inverters as a bar diagram.
 - Every bar shows the yield of one hour.
- weekly power evaluation
 - Shows the weekly power of the selected inverters as a line diagram.
- weekly yield evaluation
 - Shows the weekly yield of the selected inverters as a bar diagram.
 - Every bar shows the yield of one day.
- Monthly yield evaluation
 - Shows the monthly yield of the selected inverters as a bar diagram.
 - Every bar shows the yield of one day.
- Yearly yield evaluation
 - Shows the yearly yield of the selected inverters as a bar diagram.
 - Every bar shows the yield of one month.

PLATINUM PV-Monitor Operation

6.6 Data export

➔ Select register **Data export**.

Display enables data export to the PC.

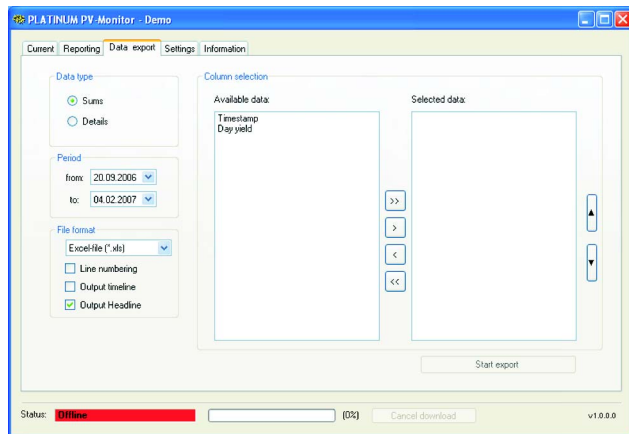


Fig. 5 Display Data export

Data type

- ➔ summary data
 - ➔ Export summary data of all inverters.
- ➔ detail data
 - ➔ Export detail data of all inverters.

Note

The data type selection determines the available columns in the column selection.

Period

- ➔ from
 - ➔ Select beginning of export period.
- ➔ to
 - ➔ Select end of export period.

File format

- file format selection
 - Select file format for data export.
- output headline
 - Output headline with column headings when exporting () or do not output (.
- output timeline
 - Output additional column with time information() or do not output (.
- line numbering
 - Number the lines when exporting () or do not number (.


Column selection

The data type selection determines the available columns in the column selection.

Note

The left window shows the columns available for export. The right window shows the columns contained in the export file.


To transfer a column to the export file:

- ⇒ Select desired column.
- ⇒ Click on .

**transfer columns to
export file**

The desired column appears in the right window.

To transfer all columns to the export file:

- ⇒ Click on .

All columns appear in the right window.

To delete a column from the export file:

- ⇒ Select desired column.
- ⇒ Click on .

**delete columns
from export file**


The desired column appears in the left window.

To delete all columns from the export file:

- ⇒ Click on .

All columns appear in the left window.

To move a data column upwards:


- ⇒ Select desired data column.
- ⇒ Click on .

column order

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To move a data column downwards

- Select desired data column.
- Click on .

data export start

To start the data export:

- Click on **Start export**.
- Insert desired path and file name in the Windows window **save file as....**

6.7 Settings

⇒ Select register **Settings**.

Display enables the following:

- Administration of PV plants.
- Search for inverters.
- Administration of inverters.

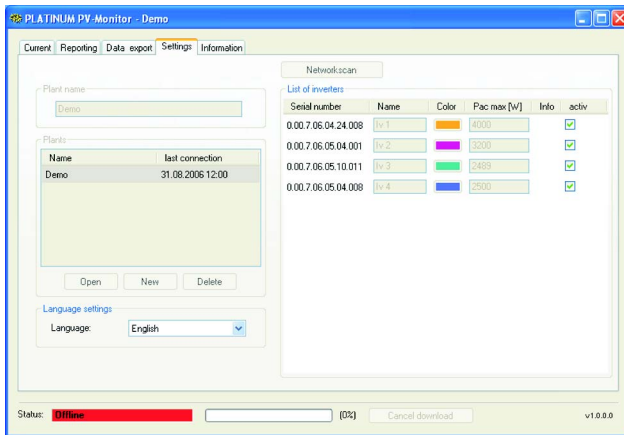


Fig. 6 Display Settings

Plant name

Shows the name of the open PV plant.

Plants

Shows a list of available PV plants.

- open
 - Open PV plants in PV-Monitor and show a list of the inverters.
- new
 - Set up a new PV plant in PV-Monitor.
- delete
 - Remove PV plant from PV-Monitor.

To open a PV plant in PV-Monitor and show a list of the inverters:

- ⇒ Select desired PV plant.
- ⇒ Click on **Open**.

Open

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Operation

- New** To set up a PV plant in PV-Monitor:
- Click on **New**.
 - Insert name of PV plant in field **Plant name**.
- PV-Monitor searches for inverter.
- Delete** To remove a PV plant from PV-Monitor:
- Select desired PV plant.
 - Click on **Delete**.
- Language settings**
- ➔ host language
 - ➔ Select PV-Monitor software language.
- List of inverters**
- Shows a list containing inverter information.
- ➔ Serial number
 - ➔ inverter serial number
 - ➔ name
 - ➔ inverter designation in PV-Monitor
 - ➔ colour
 - ➔ inverter colour in PV-Monitor diagrams
 - ➔ Pac max [W]
 - ➔ maximum power Pac max of the inverter in PV-Monitor
 - ➔ info
 - ➔ Shows warning symbol if reading out saved data from the inverter is not possible.
 - ➔ active
 - ➔ Read out inverter data () or do not read out inverter data ()
- Note** *It is not possible to change the serial number.*
- Name** To change the inverter designation:
- Select desired inverter.
 - Insert designation in column **Name**.
- Color** To change the inverter colour in PV-Monitor diagrams:
- Select desired inverter.
 - Click on colour field.
 - Select colour.

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To change the maximum power of the inverter in PV-Monitor: **Pac max**

- Select desired inverter.
- Insert maximum power **Pac max** in column **Pac max (W)**.
Use the value for maximum DC power from the inverter data sheet.

*PV-Monitor only uses the maximum power for the diagram display. If the maximum power **Pac max** is not being input, PV-Monitor 1 uses **W** as an initial value.* **Note**

*PV-Monitor updates the value of the maximum power **Pac max** with the highest measured value. If the measured value is higher, PV-Monitor overwrites the input value.*

Inverter search

Enables the search for inverters.

To search for inverters:

- Click on **Inverter search**.

PV monitor searches for inverters.

Detected inverters are shown in **List of inverters**.

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6.8 Information

- Select register **Information**.

Display shows the following information:

- ➔ software name und version no.
- ➔ contact address
- ➔ CommStick serial number and level

Information is merely displayed. It is not possible to change information.



Fig. 7 Display Information

Note

It is possible to replace the graphic on the left side of the display by an own graphic.

To replace the graphic:

- Position cursor on graphic.
- Press right mouse key select → **Select picture**.
- Open graphic file.
-

7 Disposal

- Dispose of packaging and consumed parts according to the rules and regulations applicable in the country where the device was installed.

8 Norms and licenses

PV-Monitor meets the requirements of all applicable CE guidelines.

PLATINUM PV-Monitor EU conformity declaration

9 EU conformity declaration

Name and address of the issuer	Diehl AKO Stiftung & Co. KG Pfannerstraße 75 D-88239 Wangen im Allgäu
Product designation	PV plant monitoring
Type designation	Platinum PV monitor

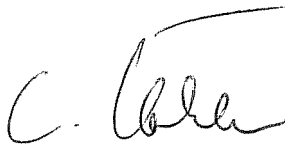
The designated devices comply with the provisions of EU directives. Especially the Low Voltage Directive 73/23/EWG and the EMV Directive 89/336/EWG.

The designated devices conform to the following norms:

- EN 55011 or
- EN 550022/9.98 class B
- EN 50082 part 1

Consequently the products mentioned above carry the CE mark.

Wangen im Allgäu, 1/10/2007
Diehl AKO Stiftung & Co. KG



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**PLATINUM PV-Monitor
Manufacturer's warranty**

10 Manufacturer's warranty

The warranty provided by Diehl Controls complies with current legal requirements.

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