

Quick Guide

System datalogger Sunplug datalogger 485



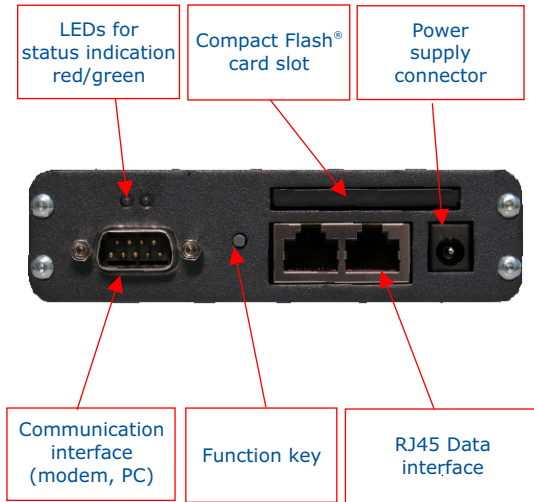
For versions:

- Sunplug datalogger 485
- Sunplug datalogger 485 plus

* further referred to as datalogger



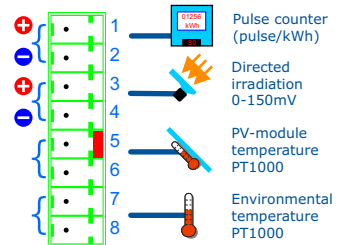
Connections



Additional connections of datalogger *plus* version



Frame connector (top side) to connect additional sensors




Technical specifications

Datalogger

- Dimensions: Aluminium profile housing for indoor use 145mm * 70mm * 30mm, plus frame connector
- RS232 D-Sub 9 plug for connection to a modem or PC
- Data interface RS485 (RJ45 socket)
- LEDs for status indication (red, green)
- Power supply 12-30 VDC, typ. 50mA, external power supply unit
- Internal speaker
- Operation temperature 0°C ... +55°C



Datalogger *plus* version

- Dimensions: Aluminium profile housing for indoor use 145mm * 100mm * 30mm, plus frame connector

In addition to datalogger:

Analog-digital-converter, inputs:

- 2x PT1000 (-40 to 160°C)
- 1x Irradiation 0 - 150 mV
- 1x Pulse input (pulse/kWh)



The datalogger - Follow up



Most important signals

Meaning of LEDs:

L1 green = online (flashes on action)

L2 red = error

Meaning of tone signals:

Info:

OK, operational - 2 tones, low-high
short signal when data logged

Error:

CF-card-error - 2 tones, high-low

-> check or replace CF-card

Clock error (RTC) - 3 tones, high

-> set new time with PC software



Hint - Functionality check

The functions of the datalogger can only be checked completely with the pc software. After installation the use of the PC software is highly recommended (please see further instructions in this guide and the user guide).



Safety instructions

Please pay attention to the following safety instructions using the datalogger!

- o Please do not touch live wires, even if the datalogger is disconnected from power supply. It puts your live at risk. Install datalogger only in power-off mode
- o Operate only with declared power supply (12-30 VDC, check polarity)
- o Installation of the datalogger only in indoor and dry environment
- o Please do not operate inside the case with metallic and sharp objects
- o Please pay attention to the safety instructions of the manufacturer for use of Compact Flash cards

Step 1: Installation of the datalogger

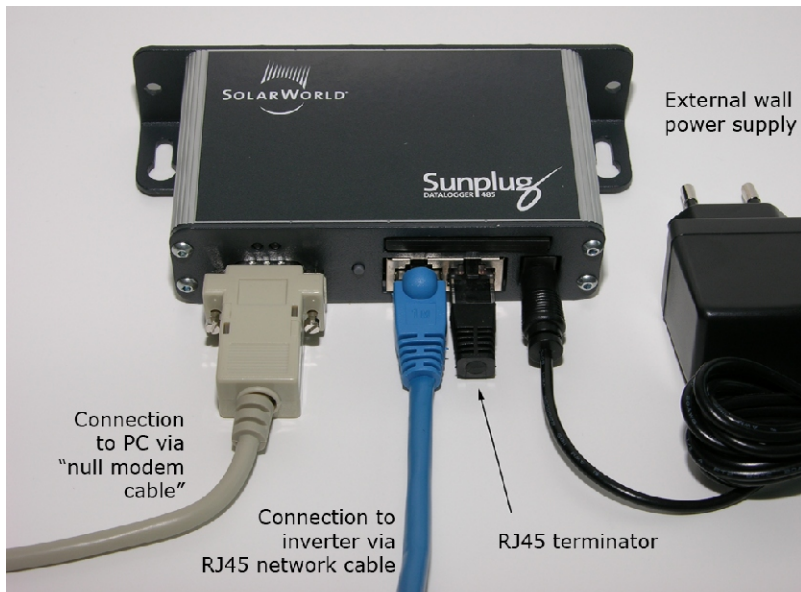
Mounting

The datalogger (*plus* version as well) can be mounted via the two drill holes in the base plate (furthermore it can be mounted to the wall via the additional key holes).

During the mounting of the datalogger (*plus* version as well) please take care of the cable connection and an easy replacement of the CompactFlash®-card (in power-off mode only) if necessary.

Connect the hardware

1. Insert the CF-card into the card slot
2. Plug one of the RJ45-terminator into one of the RJ45-sockets of the datalogger
3. Use the RJ45-network cable to wire the free RJ45-sockets of the datalogger with one of the RJ45-sockets of the inverter
4. Plug the second RJ45-terminator into the free RJ45-sockets of the inverter
5. Wire the datalogger and the pc with the null modem cable
6. Plug the power supply into the dataloggers's power supply connector and into a power socket



7. The LEDs and the internal speaker of the datalogger switch on briefly when the datalogger is connected to the power supply. The system has been started successfully if both signals occurred. Has this not been the case the power supply needs to be checked first
8. If the LED flashes sustained in red, the datalogger is not configured correctly. Please check with PC software. If this issue cannot be solved, please get in touch with your supplier



Step 2: Installation of the PC software

1. Insert provided software CD into the CD/DVD-drive of the PC
2. Start the installation program on the CD
3. Enter the software key during installation (located on CD cover)

After installation, the software "Sunplug Service" can be started via the created menu entry (Start/Programs).

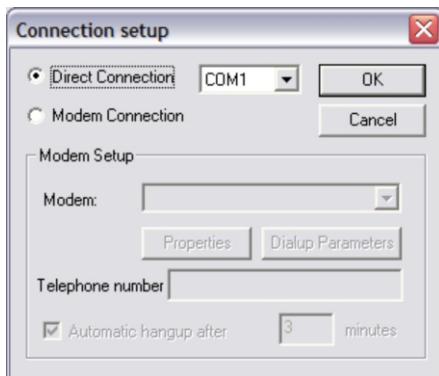
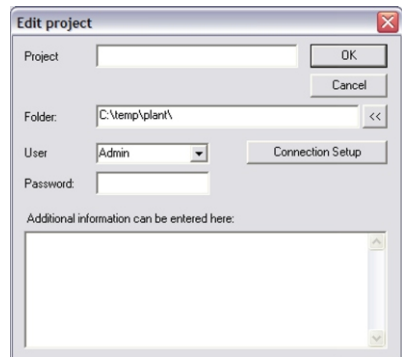


Step 3: First connection to the datalogger



1. Creation of new PV-plant project

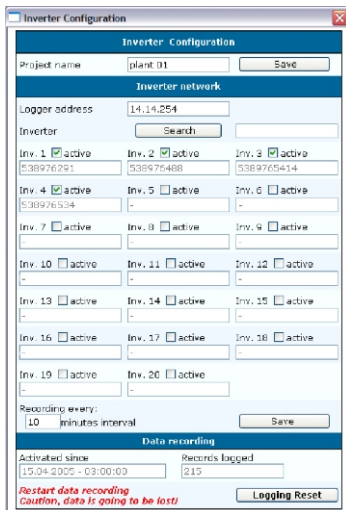
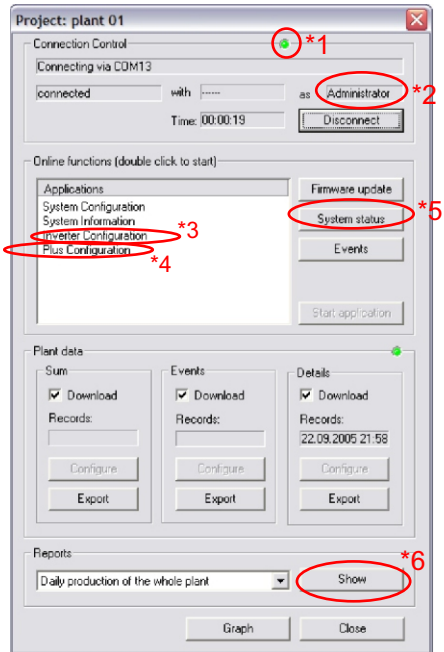
1. Click on 'New project'
2. Enter the name of the project
3. 'Admin' needs to be selected as user. Password can remain empty as it is not set in the datalogger by default
4. In the 'Connection setup' select the COM-port where the PC is connected to
5. Click on 'Ok' to save the settings



Hint: The provided user guide contains further details about using a modem connection. For configuration of the datalogger user level must be set to "Admin".

2. Establish first connection

1. Open the just created project
2. By clicking on 'Connect' a connection to the datalogger will be established
3. The connection indicator (*1) will be flashing in green as soon as the connection is established
4. Additional entries appear in the main menu 'Online functions' (only 'Admin' *2)
5. The next step is to add inverter in the 'Inverter configuration' (*3)



3. Add inverter

The datalogger has to 'learn' all inverters (must be active) connected to the plant at it's initial startup or if changes are made to the plant afterwards.

1. A click on 'Search' will scan for all connected inverters
2. The 6-digit inverter number can be used to check if all inverters have been found
3. Additionally, a recording interval can be specified (default 10 minutes)
4. Click on 'Save' finalizes this step. The window can be closed

4. Add additional sensors (plus version only)

In order to log data from additional sensors such as irradiation, the sensors needs to be configured in the 'Plus configuration' (*4) menu. Details can be taken from the user guide.



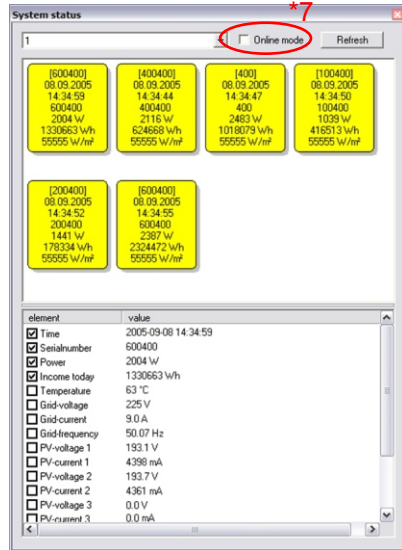
Step 4: Monitoring of the PV-plant

System status

Display of the current information of the plant

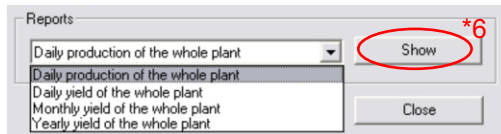
1. Click on 'System status' (*5)
2. Inverter data is being retrieved continuously if 'Online-Modus' (*7) is checked
3. 'Refresh' cleans all inverter information from the boxes and updates the boxes with new information from the inverter

Hint: The connection to the datalogger must be established to see the system status.



Reports

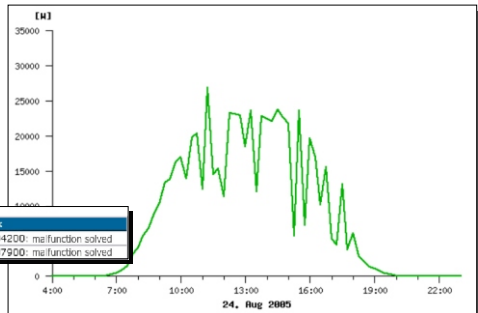
The reports can be selected in the main menu and a click on 'Show' (*6) opens the appropriate report.



Daily production of whole plant

The diagram shows the production curve of the whole plant on the day. Additionally, events or interferences are displayed here as well.

malfunctions/events			
timestamp	event	remark	
2005-08-24 11:46:39	WR 634200, DC-AC: HW TRIP	2005-08-24 11:56:50 - WR 634200: malfunction solved	
2005-08-24 11:46:49	WR 637900, DC-AC: HW TRIP	2005-08-24 11:56:59 - WR 637900: malfunction solved	

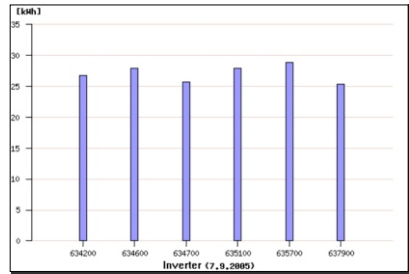




Monitoring - Follow up

Daily yield of the whole plant

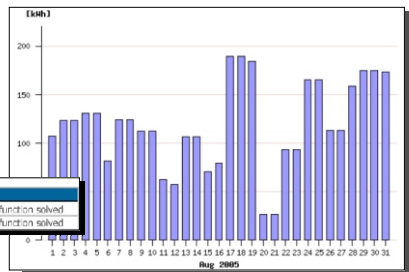
This report shows the yield per inverter during the day. Additionally, events or interferences are displayed here as well.



Monthly yield of the whole plant

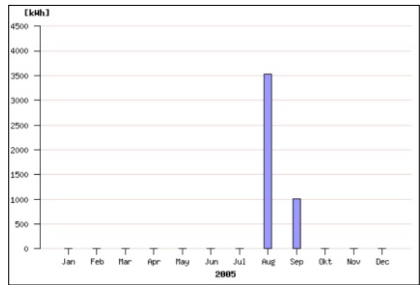
This report shows the yield of the whole plant during the month. Additionally, events or interferences are displayed here as well.

malfunctions/events:		
TimeStamp	event	remark
2005-08-24 11:46:39	WR 634200, DC-AC: HW TRIP	2005-08-24 11:56:50 - WR 634200: malfunction solved
2005-08-24 11:46:48	WR 637900, DC-AC: HW TRIP	2005-08-24 11:56:59 - WR 637900: malfunction solved



Yearly yield of the whole plant

This report shows the yield of the whole plant during the year.



Further information can be found in the provided user guide.

Technical improvements are subject to change.

Release version: 1.2

Date: 28.09.2005