Sunny Display

Supplement to the Sunny Boy User Manual

Version 1.0

Sunny Boy Status-

and

Measurement Value Display

SUNDIS-11:NE1000

Alteration Review

Document-Number SUNDIS	**Version and Alteration Review [1])**		**Comments**	**Author**
-11:NE0500	1.0	A	First Edition, as translation from first German issue	Salisbury

[1]) A: Alterations due to faulty documents or improvement of the documentation

B: Alterations maintaining full or upward compatibility

C: Alterations limiting or excluding compatibility

	Name	**Date**	**Signature**
Release	J. Lengemann		

Explanation of Symbols used in this Document

To enable optimal usage of this manual and safe operation of the device during installation, operation and maintenance routines, please note the following description of symbols:

This indicates a feature that is important either for optimal and comfortable usage or optimal operation of the system.

Example: „Useful C routines for this purpose are on the support disk.“

This indicates a fact or feature very important for the safety of the user and / or can cause a serious hardware defect if not appropriately applied.

Example: „Disconnect the mains plug before opening the case!“

This indicates an example.

Content

1 Introduction

Thank you very much for purchasing a *Sunny Display*. The *Sunny Display* will provide detailed information about the performance of your *Sunny Boy* inverter.

This is a very short manual and is split into the following sections:

The latest information is always available on our internet-site. You can also register for automatic updates of the documentation concerning the *Sunny Boy* products. Simply send an Email to Sunnyboy@sma.de or visit our Homepage http://www.sma.de.

2 Installation of the Sunny Display

The lid of the *Sunny Boy* must be exchanged if you are upgrading the *Sunny Boy* with a *Sunny Display* unit.

Pay attention to the safety regulations in your *Sunny Boy* Manual when you take the lid of the *Sunny Boy*.

Pay attention to the ESD countermeasures in order to protect the display unit and the *Sunny Boy* itself when you install the *Sunny Display*. Be careful and make sure you are connected to ground before you touch any electronic components.

Procedure:

- disconnect the the AC Side of the *Sunny Boy*. This is done with the fuse on the household distribution.
- disconnect the the DC Side (PV voltage) from the *Sunny Boy*.
  Note: Some *Sunny Boy* inverters (*Sunny Boy* 700 and *Sunny Boy* 850) require that you take the lid off in order to disconnect the DC voltage. **Never disconnect the PV voltage when the *Sunny Boy* is feeding to the grid! Always disconnect the AC side first.**
- wait for 30 minutes for internal voltages to discharge before you proceed.
- remove the lid with the 4 screws on the sides and disconnect the yellow-green cable.

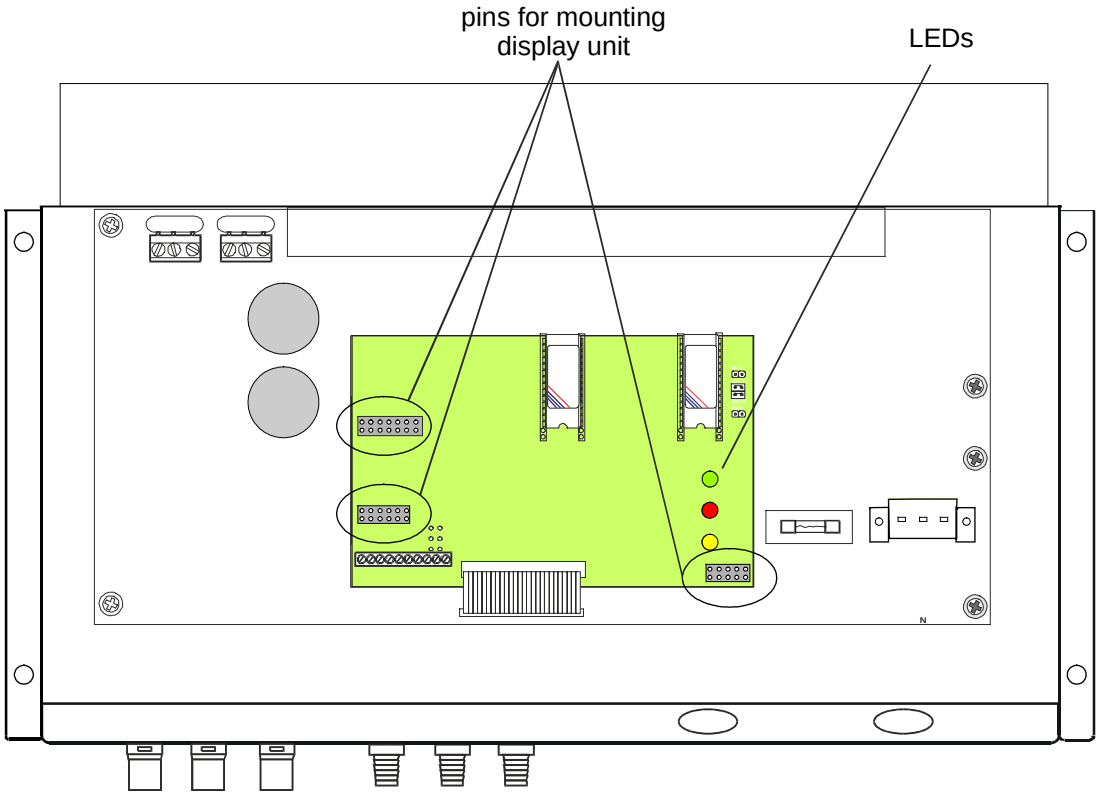


Figure 2.1: Sockets on the control board

- Insert the display unit carefully in the 3 sockets on the control board (see Figure 2.1 above). The 3 LEDs must fit exactly through 3 holes in the display unit. Carefully push the display unit down until the pins are entirely in the sockets. Do not use brute force. The display unit should easily sink into the right position.

Figure 2.2: Sunny Boy with mounted display unit

- Close the *Sunny Boy* with the **new** lid. Do not forget to connect the yellow-green PE cable.
- Reconnect the *Sunny Boy* to the DC and the AC side in the opposite order as described above.

3 Operation

How to switch on the background light

You can switch on the background light by knocking on the lid. After 2 minutes the light will be automatically turned off.

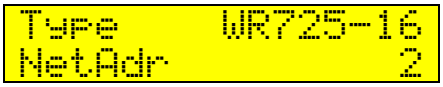
Display messages on power-up

On power-up the *Sunny Display* replies with it's software version number:

← software version number

Figure 3.1: Initial Message

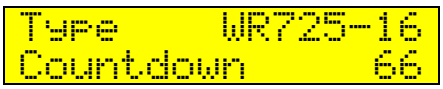
After 5 Seconds type and Network address of the inverter appear in the first line:



← Sunny Boy type
← Network address

Figure 3.2: Type of used inverter and Network address

The *Sunny Display* receives the measuring channel information of the inverter. This process takes ca. 3 minutes.



← Sunny Boy type
← Count-down of remaining data packages

Figure 3.3: Countdown

Display messages in operation mode

The display shows the most important information of your inverter. The following three figures explain the messages. Each message appears for 5 seconds. Afterwards the cycle starts from the beginning. First you can see the current output power and solar generator voltage:

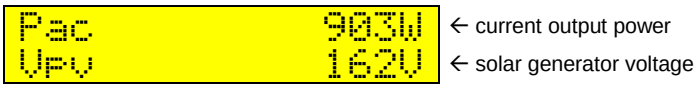


Figure 3.4: Displaying of Pac and Vpv

These values are followed by the energy yield (up to now) and total operating time:

Figure 3.5: Message of E-Total and h-Total

After that the energy yield of the current day and the operating mode are displayed:

Figure 3.6: Energy yield and operation mode

In case of a failure the status line changes to “Disturbance“:

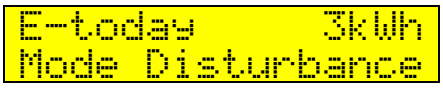


Figure 3.7: Status message

This is followed by reason of the failure is displayed for 15 seconds:

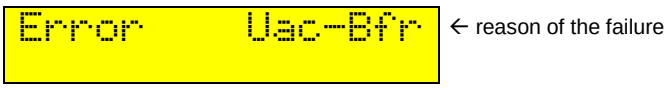


Figure 3.8: Error message

Now the information restarts. You can find an overview of all status- and errormessages in the technical documentation of your *Sunny Boy*.

4 Technical Data

Dimensions:	160 x 75 x 20 mm
Display:	2 x 16 Characters
Weight:	ca. 100 g

5 Warranty Regulations and Liability

You have purchased a product, which was thoroughly checked before delivery. If your device nevertheless is defective or shows malfunction during the guarantee period, please contact your distributor or company that installed the device.

Guarantee

The guarantee period is 24 months from the date of purchasing the device by the end user. It ends at the latest 30 months after the shipping date from SMA, and includes all defects caused by material or manufacturing faults.

The guarantee period for guarantee repairs or compensation deliveries ends 12 months after delivery, but runs at least until the expiration of the original guarantee period for the purchased device.

SMA will only guarantee services, if the rejected device is sent back to SMA together with a copy of the invoice the distributor has issued to the customer. The type identification sign on the device must be completely legible. In any other case SMA reserves its right to refuse guarantee services.

Conditions

The device will be repaired in its fabrication site without invoice for material and labor, or a replacement device will supplied.

The objected device is to be sent back to SMA without charges in the original packing or in a transport packing of equal quality.

The customer has to grant SMA the necessary time and opportunity to repair the defects.

Exclusion of Liability

Excluded are any guarantee claims and liabilities for direct or consequential damages due to

- transportation damages,
- improper installation or operation,
- alterations, modifications or unauthorized repairing attempts,
- inappropriate use or operation,
- insufficient air circulation for the device,
- violation of according safety regulations (VDE etc.),
- or force majeure (lightning, overvoltage, storm, fire).

Sequential Damages

SMA in no case will cover any liability for damages resulting from the use of *a Sunny Display* (including and without restriction for direct and indirect damages of used hardware, personal damages, profits lost, operating troubles, loss of data, or any financial losses).

Further or other claims for direct and indirect damages, especially including claims for damages from positive contract violation, are excluded insofar as not otherwise compelling stated by law.