



Firmware Update with SD Card

## **SUNNY BOY** 3000TL / 4000TL / 5000TL

**Technical Description**





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# 1 Notes on this Manual

## 1.1 Validity

This manual describes the firmware update with SD card for SMA Solar Technology inverters of type Sunny Boy 3000TL (SB 3000TL-20), 4000TL (SB 4000TL-20) and 5000TL (SB 5000TL-20).

## 1.2 Target Group

Only qualified electricians may carry out the firmware update with SD card.

## 1.3 Symbols Used

The following types of safety instructions and general information appear in this document as described below.

	<b>DANGER!</b>
DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury!	

	<b>CAUTION!</b>
CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.	

	<b>Information</b>
Information provides tips that are valuable for the optimal operation of the product.	

## 2 Safety Precautions

**DANGER!**

**Danger to life due to high voltages in the inverter!**

- All work on the inverter must only be carried out by a qualified electrician.

**CAUTION!**

**Danger of burn injuries due to hot housing parts!**

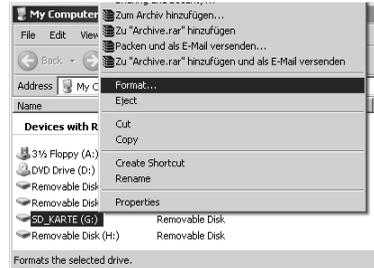
During operation, the upper lid of the housing and the housing body may become hot.

- Only touch the lower housing lid during operation.

### 3 Preparing the SD Card

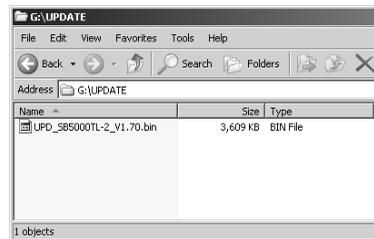
Use an SD card with a maximum of 2 GB of storage space.

1. Format the SD card in order to ensure a flawless update process.

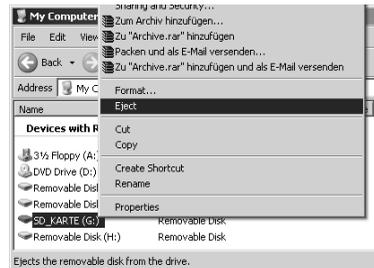


2. Copy bin file with firmware of the inverter into a sub-directory UPDATE on the SD card.

Firmware will be provided if requested through the SMA Technical Service Line.



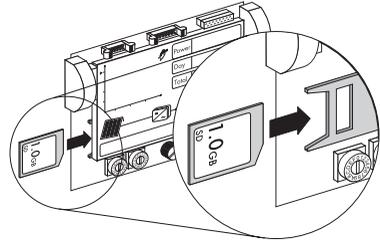
3. Eject the SD card from card reader.
- The SD card can now be used for a firmware update in an inverter.



## 4 Updating the Firmware

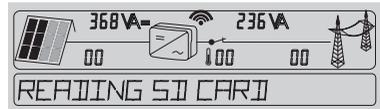
### 4.1 Inserting the SD Card

1. Open the inverter as described in its installation guide.
2. Insert the SD card into the slot with the slanted corner at the bottom until it locks into place.
3. Close the inverter and commission it as described in its installation guide.



### 4.2 Update Messages

1. The inverter begins checking the SD card.



#### Different display messages

If the display shows messages other than those displayed here, there is an error. The error messages are described in the installation guide of the inverter, ordered by the event number on the display.

Description	Display Message
<p>The inverter has compared the update file with the firmware and has determined that an update is necessary. The message is displayed for 10 seconds.</p> <ul style="list-style-type: none"> <li>• Remove the SD card as described in Chapter 4.3 "Removing the SD Card" (page 10).</li> <li>• The following shows the messages of the inverter component for which an update can be carried out (see Section 2).</li> </ul> <p>The firmware update of all components will take approx. 8 minutes.</p>	
<p>There is no update file on the SD card or the update file is not intended for this type of inverter. The message is displayed for 10 seconds.</p> <ul style="list-style-type: none"> <li>• Remove the SD card as described in Chapter 4.3 "Removing the SD Card" (page 10) and save correct update file on the SD card.</li> </ul>	

Description	Display Message
<p>The firmware version of the inverter corresponds to the version of the update file. An update of the inverter firmware is not necessary. The message is displayed for 10 seconds.</p> <ul style="list-style-type: none"> <li>Remove the SD card as described in Chapter 4.3 "Removing the SD Card" (page 10).</li> </ul>	 <p>NO NEW UPDATE ON SD</p> <p>Changing display message every 5 seconds</p>  <p>CARD</p>



**End of update**

The update of an individual component is completed if the message for the update of the next component or the message < Update finished > is displayed.

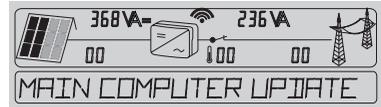
- The update of the **communication component** is being carried out. The message is displayed for approx. 1 minute.



- The update of the **language table** is being carried out. The message is displayed for approx. 5 seconds.



- The update of the **main computer** is being carried out. The message is displayed for approx. 2 minutes.



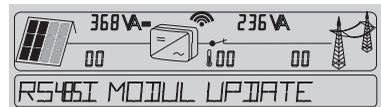
- The update of the **display** is being carried out. The message is displayed for approx. 30 seconds.



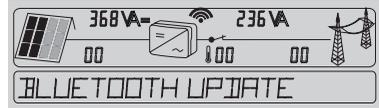
**Switching off the display**

During the update, the display may be switched off for up to a minute (no display).

- The update of the **RS485i module** is being carried out. The message is displayed for approx. 2 minutes.



- 7. The update of the **module for Bluetooth® Wireless Technology** is being carried out. The message is displayed for approx. 1 minute.



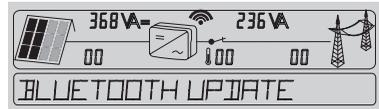
- The firmware update is completed. The message is displayed for 30 seconds. Afterwards, the inverter displays its initialization messages.

Remove the SD card as described in Chapter 4.3 "Removing the SD Card" (page 10).

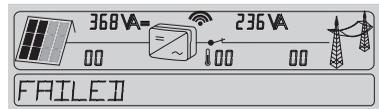


### Faulty update of a component

If the update of a component could not be carried out after several attempts, the adjacent display messages will appear (example of an unsuccessful Bluetooth update) for 20 seconds. Afterwards, the message for the update of the next component or the message < Update finished > is displayed.

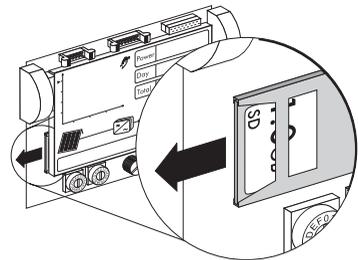


Changing display message every 5 seconds



## 4.3 Removing the SD Card

1. Open the inverter as described in its installation guide.
2. Push the SD card a little and release it.  
The SD card is ejected a little and you can remove it.
3. Close the inverter and commission it as described in its installation guide.



## 5 Contact

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

- Inverter Type
- Series number of the Sunny Boy
- Type and number of modules connected
- Event number or display of the Sunny Boy
- Type of communication, if applicable
- Type of fault signaling contact connected, if applicable

### **SMA Solar Technology AG**

Sonnenallee 1

34266 Niestetal, Germany

[www.SMA.de](http://www.SMA.de)

### **Service Line**

Inverter: +49 561 9522 1499

Communication: +49 561 9522 2499

Fax: +49 561 9522 4699

E-Mail: [serviceline@SMA.de](mailto:serviceline@SMA.de)



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### SMA Solar Technology AG

Sonnenallee 1

34266 Niestetal

Germany

Tel. +49 561 9522-0

Fax +49 561 9522-100

[www.SMA.de](http://www.SMA.de)

E-Mail: [info@SMA.de](mailto:info@SMA.de)

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**SMA Solar Technology AG**

**www.SMA.de**

**Sonnenallee 1**

**34266 Niestetal, Germany**

**Tel.: +49 561 9522 4000**

**Fax: +49 561 9522 4040**

**E-Mail: Vertrieb@SMA.de**

**Freecall: 0800 SUNNYBOY**

**Freecall: 0800 78669269**

