

Instructions for Sunways Solar Inverter software updates

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1 Introduction

This document contains detailed instructions for software updates for Sunways Solar Inverters of the following types:

- NT series 900 V (NT 2500...NT 5000)
- NT series 900 V (NT 10000...NT 12000)
- AT series (AT 2700...AT 5000)
- PT series (PT 30k, PT 33k)

Each Solar Inverter contains three different software packages:

Name	Abbreviation	Function
Communication Software	COM	Data Logger, display, integrated web server
Web Interface	WIF	Contains the contents of the Sunways Browsers
Control Software	Control	Control and monitoring of the Solar Inverter

Please note:

- In case of update installations, please make sure to keep all updates (COM, WIF and Control software) on the latest software release available.
- Before the update performance, check out the inverter type and software version (SW-COM). A software update can only be carried out to the next higher version.
- If you operate several devices of different types in a network, updates should always be applied to all devices. The use of different software versions in a network should be avoided.
- While the update is in progress, any interruptions of the power supply must be avoided, because otherwise the software may no longer start correctly.
- Before the software update, the inverter should not show any error or fault.
- Please reset the Inverter after all software updates are finished by disconnecting AC for a minimum of 5 seconds

1.1 Current software versions

Model	Communication ("COM")	Control software ("Control")	Web-site	Comments
AT 2700...5000	5.1.2	3038	3038	
NT 2500...5000	5.1.1	2908	2908	
NT 10000...12000	5.1.1	2908	2908	
PT 30k / 33k*	0004.0004	002.014	1164	Control Hardware: 2.0
	5.1.0	2724	2724	Control Hardware: 4.0

- Before the update, please, check the Control Software and Hardware versions.

1.2 System requirements:

Operating system: Windows XP SP3, Windows 7 (Windows 7 not for AT Software < COM 3.5 und PT < COM 4.0)

Browser: Mozilla Firefox from V 3.6

Java: from V6.0

1.3 Update matrix

The following table provides an overview of the available software updates. Please update the software **in the order of the list**, for inverters which are installed in your PV plant. Please also note the additional comments in the right column.

Model	Software	Update File	Comments
	1. COM < 3.5 (3.0005)	Please, contact the Hotline	AT solar inverters with Monitoring-Software 2.0006 or older must not be updated!
	2. COM = 3.5 (3.0005) and Control 2.19	Please, follow the instruction at point 6.1	
AT 2700 ... 5000	3. From COM = 4.0 (4.0000) to COM = 4.2 (4.0002)	a) COM, AT_COM_4_3.gz b) WIF, AT_WIF_LNG_1747.gz c) Control, AT_Control_4_0.gz	From COM Software version 4.0 to 4.2, please, update to 4.3 Please update AT_COM_4_3.gz twice in order to ensure the installation on both boot sectors. Press F5 after each COM update to refresh the browser.
	4. COM ≥ 4.3 (4.0003)	a) COM, AT_COM_5_1_2.gz b) Survey boot loader, AT_Sunways_survey_boot_5.1.2.gz c) Control, AT_dsp_5_1_2.gz	From COM Software version 4.3, update to 5.1.2. Please update AT_COM_5_1_2.gz twice in order to ensure the installation on both boot sectors. Press F5 after each COM update to refresh the browser. Please, check the completed update under INFO- Button
NT 2500 ... 5000	1. COM (before the update, follow the instruction at point 6.2)	NT5_COM_5_1_1.gz	Please install this twice in order to assure to overwrite both boot sectors properly. Refresh the page (F5) after the first COM update. Check the revision at the bottom of the website.
	2. Control	NT5_dsp_5_1_1.gz	Only for inverters ≥ Control 2.11 Please, check the completed update under INFO- Button
NT 10000 ... 12000	1. COM (before the update, follow the instruction at point 6.2)	nt10k_COM_5.1.1.gz	For COM software version lower than 0002.0008 you need the installer password to set the country again. Contact the hotline and give us the inverter MAC address to generate the password
	2. Control	nt10k_dsp_5.1.1.gz	Only for inverters ≥ Control 2.11 Please, check the completed update under INFO- Button

PT 30k ... 33k	1. COM < 4.0 (4.0000)	a) COM (see 6.1)	PT_COM_4_0_M.gz	Only for masters with COM 3.x	
			PT_COM_3_to_4_0_S.gz	Only for slaves with COM 3.x	
			PT_COM_4_4.gz	For master and slave inverters beginning at COM 4.x. Update PT_COM_4_4.gz twice.	
		b) WIF (see 6.1)	PT_COM_4_4_WIF.gz		
			c) Control	PT_Control_2_14.gz	Only for inverters with Control Hardware: 2.0 COM-SW only until 4.4
				PT_Control_3_4.gz	Only for inverters with Control Hardware: 4.0
		2. From COM 4.0 (4.0000) to 4.3(4.0004)	a) COM	PT_COM_4_4.gz Please update PT_COM_4_4.gz twice in order to ensure the installation on both boot sectors. Press F5 after each COM update to refresh the browser.	
				b) WIF	PT_COM_4_4_WIF.gz
			c) Control		PT_Control_2_14.gz
					PT_Control_3_4.gz
	3. COM ≥ 4.4 (4.0004)	a) COM, b) Control,	PT_COM_5_1_0.gz From COM Software version 4.4, update to 5.1.0.		
				PT_dsp_5_1_0.gz Please update PT_COM_5_1_0.gz twice in order to ensure the installation on both boot sectors. Press F5 after each COM update to refresh the browser.	
	(Only for inverters with Control Hardware: 4.0)				

2 Calling the Sunways Browser

Open the start page of web browser for the single unit/master by specifying the IP address. Access requires authentication. Enter the following data in the password dialog

User name: customer
Password: ***** (eight asterisks)

Note: If you have changed the password, please use the new data.

3 Software update – general procedure

Depending on the number and types of Solar Inverters, several steps may be required.

- A **single unit** can be updated directly (see section 4)
- To update several devices in a **CAN network** proceed as follows:
 1. Update the master (see section 4)
 2. Update slaves from the same series (see section 5)

Attention: Please be aware to conduct the now following steps individually for the COM, WIF and Control update in the aforementioned order of the updates. Moreover you can find the correct order of the updates also in the update matrix (1.3).

4 Software update for a single unit or master

From the start page use this button



to access the settings. Click on Software Update to open the following window:

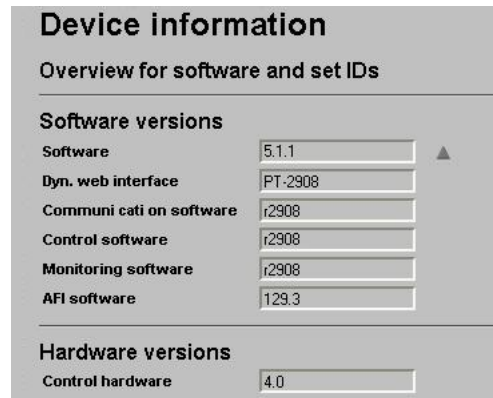


AT series, PT series (COM < 4.0)



NT series, AT series, PT series (COM ≥ 4.0)

From COM-Software Version 5.x.x, the complete software update can be checked at INFO.



All current software versions are listed. The actual software update procedure involves two steps:

4.1 Update

To carry out an update, click on "Browse..." to select a file. If required specify the destination for the update.

The update files for the respective device series are provided in the form of "gz" archives on the Sunways website at www.sunways.de. The archives should not be extracted before the update. Instead, the complete archive should be uploaded.

For AT units and PT with COM < 4.0 the update files for the control software have the extension *.bin.

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Start the file transfer by clicking on "Update". Please, follow the order and indications at "Update Matrix". During the update the display shows a status message (see manual for explanation). After a successful update a notification window opens. Select the option for automatic restart after the update ("Restart" or "COM Reset").

Note: Please do not use the Sunways Browser during update process to avoid problems.

4.2 Rebooting the communication unit

The restart takes about 15 seconds. During this time the Sunways Browser stops responding. Refresh the web page and clear the browser cache. This procedure is required in order to display modified web page content correctly. Reloading the web page alone is not sufficient.

To avoid problems with older updates, it is recommended to use the latest version of Firefox.

1. Firefox:

Select History > Clear Recent History: Tick the box to include "Cache" and click "Clear Now".

2. Opera:

Select Settings > Delete Private Data. Individual selection: Select "Cache" > Delete

3. Chrome:

At the end of the COM-Software update, it is necessary to select manually COM-RESET to restart the inverter.

4. Internet Explorer:

Select Tools > Internet Options: In the General tab, Delete Files button, tick Delete All Offline Content and click OK.

Internet Explorer can only be used to update single or master inverters. It is not possible to update slave inverters from master inverter system site.

Note 1: The inverter continues to feed into the grid during the update of the communication software and the restart. However, feeding is interrupted during a control software update.

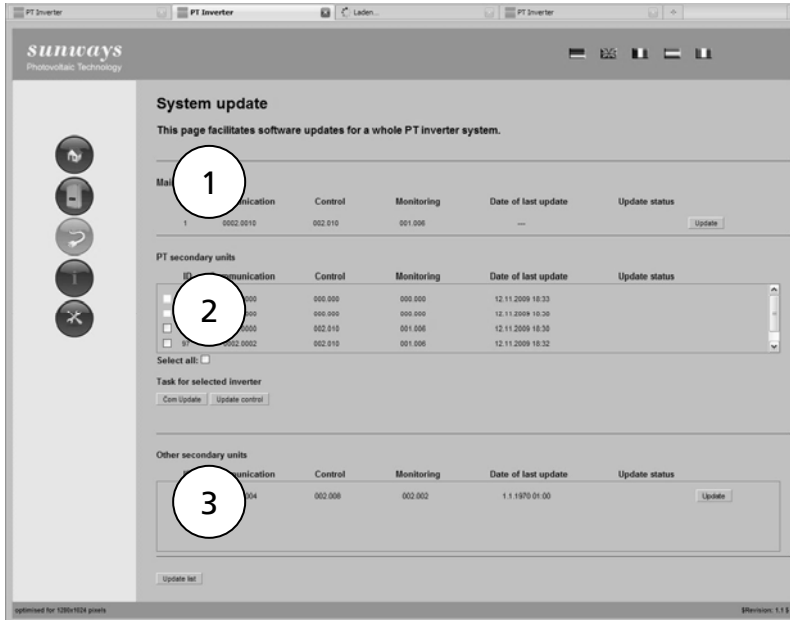
Note 2: After a complete update, please check if the inverter should work with the inventory keeping parameters or if the parameters should be updated. For this, please ask our Hotline to get the installation password in order to set the country again. Contact the Hotline and please have the MAC – address of the inverter ready.

5 System update in a CAN network

In a CAN network it is possible to update the software for the slaves from the master.

Click on System, then System Update, to call up the next page with an overview of the devices in the CAN network.

5.1 Older version: AT, PT series (COM version < 4.0)

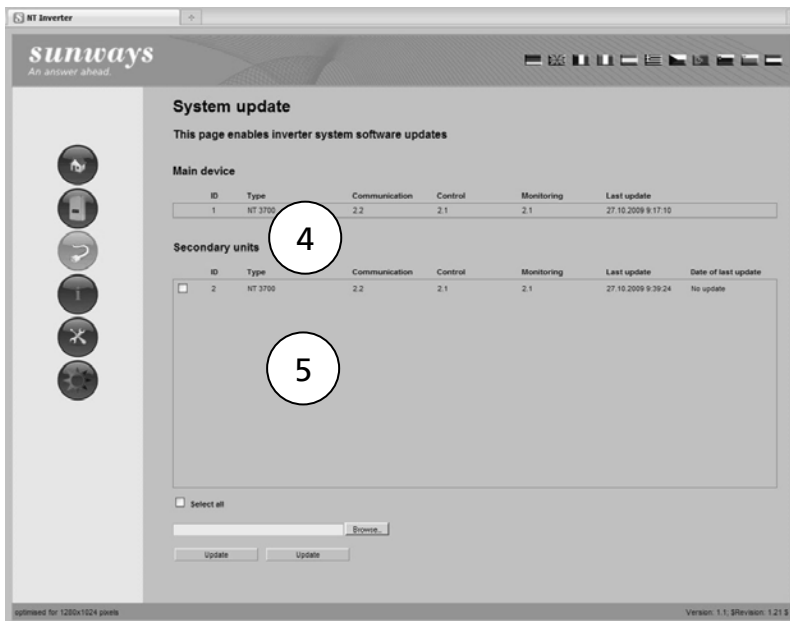


1 Section 1: Master
This section provides information on the software status of the master. Click on Update to open the dialog box for updating the master.

Section 2: Slaves
This section provides information on the software status of Solar Inverters from the same device family in the CAN network. Tick the checkboxes for the required devices or select all (recommended).
Click on Comm. Update and Control Update to update the respective software. The communication software is distributed from the master to the respective slaves. The control software first has to be uploaded. Click on "Browse..." and select a file. The selected devices are then updated successively. If the update is successful the message "updt. OK" appears.
Please note: If a device is in overnight shutdown mode, the update automatically takes place the next day. The control software update does not continue after an overnight shutdown.

Section 3: Other slaves (PT and AT < 4.0)
The Update button links to the dialog box for updating another slave separately. The procedure is described in more detail in section 6

5.2 New version: NT, PT and AT series (COM version >= 4.0)



Section 4: Master

4

This section provides information on the software status of the master. To access the dialog box for updating the master select Menu/Settings/Software Update

Section 5: Slaves in a CAN network

5

List of all slaves. For the update tick the checkbox for devices from the same series, then select the update file for this device series by clicking on the "Browse..." button. Click on Update to start the update. Basically it is possible to update all devices included in the slave list.

Please note: Only devices that are not in overnight shutdown mode can be updated. Devices that are in this mode are not listed in the slave list.

6 Software update for older software versions (only possible with Windows XP)

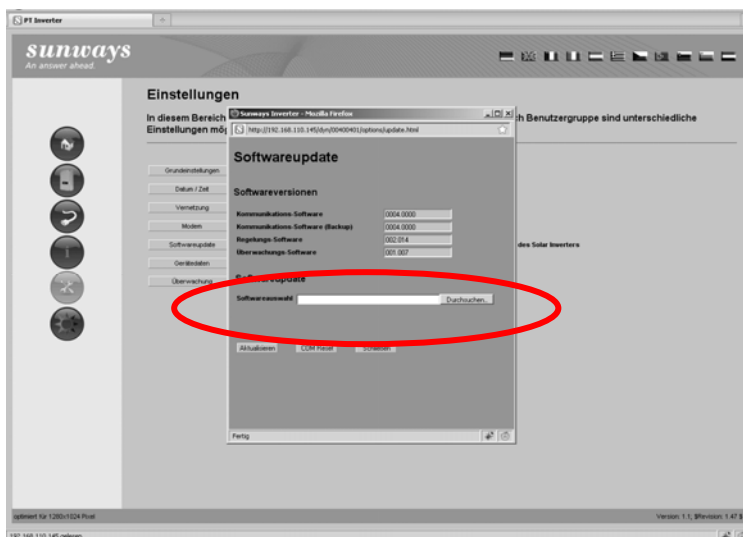
6.1 Software update PT series from COM3.x to 4.x or AT series from COM 3.5 to 4.x

Due to extensive revisions (including integration of the String Box CAN) in the new software version 4.0, the update process involves several stages.

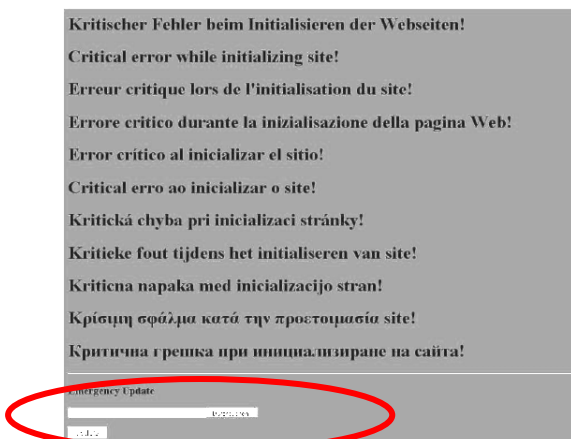
Please note: Due to necessary modifications in the data logger concept any existing files containing measured data have to be converted to the new system. Files for minute values and error data cannot be converted and will no longer be available after the software update.

6.1.1 Master software update (Settings - Software Update)

1. Update of the software [PT_COM_4_0_M.gz](#) (with PT) resp. [AT_COM_4_0.gz](#) (with AT) via menu «Settings» - «Software Update»



2. Once the Sunways Browser has been restarted and the cache has been emptied (see above), a web page appears through which the next update, [PT_COM_4_3.gz](#) (for PT) resp. [AT_COM_4_3.gz](#) (for AT) can be updated.



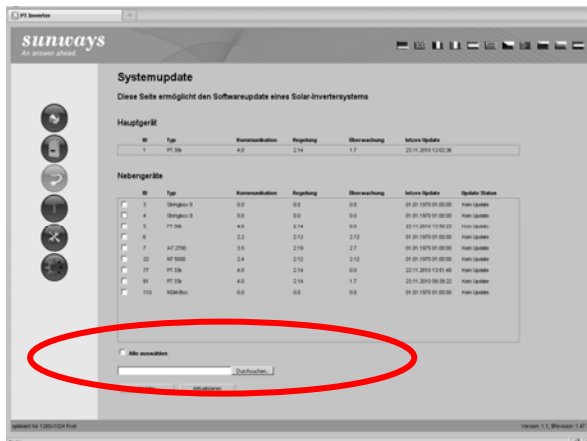
Please wait for 1 to 2 minutes, until update status OK is shown.

The screen shown under 2. will appear again. Here you can update to [PT_COM 4 3 WIF.gz](#). and by AT [AT_WIF LNG 1747.gz](#)

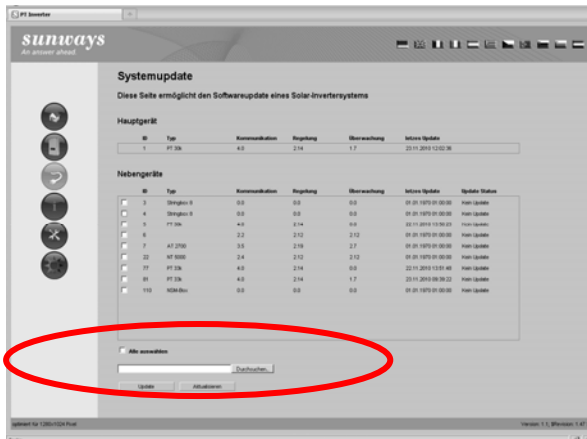
3. Repeat step 2. to update also the secondary boot sector with the latest software.

6.1.2 Slave software update (System > System Update)

- Update of the Software [PT_COM 3 to 4 0 S.gz](#) (for PT slaves) resp. [AT_COM 3 5 to 4 0 S.gz](#) (for AT slaves) via menu «System» - «System Update». Select all PT resp. AT series devices. If the software is already up-to-date, an Update Error will appear in the system list:



- Update of the software [PT_COM 4 3 WIF.gz](#) (for PT) resp. [AT_WIF LNG 1747.gz](#) (for AT) via menu «System» - «System Update». Select all PT series devices:



- Only after a successful update of the PV system to PT COM 4.4 or AT COM 4.3 can be carried out the update to PT COM 5.1.1 or AT COM 5.1.2.

Notes

If the system update should not work correctly or if you have a very large PV plant, you should update all slave inverters separately. To do so, please connect your PC to every inverter separately.

Other AT and NT slave inverters should also be updated to the latest versions.

6.2 Software update NT-Serie

- NT 10000 ...12000 from Software-version 2.2 (2.0002) to 5.1.1
- NT 2500 ... 5000 from Software-version 2.2 (2.0002) to 5.1.1

Older software versions need to be updated step- by-step and can not be updated directly to 5.1.1.

For example:

NT 10000 ...12000		
Please note the update order: a) COM (twice), b) WIF, c) Control		
Communication-Software ("COM")	WIF- Software	Control-Software ("Control")
2.0002	1.36	2.012
2.0006	1.64	3.005
2.0008	1.66	4.000
5.0.0	2525	5.0.0 (2525)
5.1.1	2908	5.1.1 (2908)

NT 2500 ... 5000		
Please note the update order: a) COM (twice), b) WIF, c) Control		
Communication-Software ("COM")	WIF- Software	Control-Software ("Control")
2.0002	1.36	2.012
2.0004	1.41	3.004
2.0006	1.63	3.001
2.0008	1.65	3.005
5.1.1	2908	5.1.1 (2908)