Software

WINDY BOY Setup Tool

User Manual

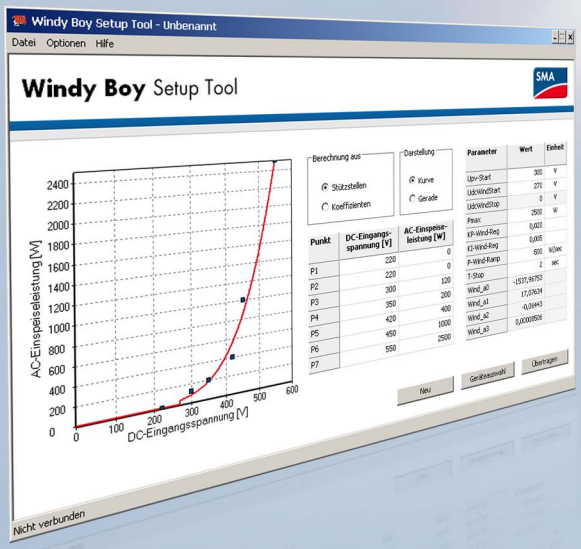

Table of Contents

1 Notes on this Manual

This manual describes how to install and operate the Windy Boy Setup Tool.

1.1 Area of Validity

This manual applies to the Windy Boy Setup Tool software version 1.0.2, and later.

1.2 Target Group

This manual is for qualified personnel. The tasks described in this manual may be performed by qualified personnel only.

1.3 Additional Information

Further information on the power curve can be found in the inverter installation guide.

2 Safety

2.1 Appropriate Usage

Windy Boy Setup Tool is a software which creates an interface between the wind power inverter and the wind turbine system and offers the installer the possibility to enter all wind parameters. The recorded parameters can be transferred to the wind power inverter via this software.

Additionally the Windy Boy Setup Tool features graphical representation of the power curve. You can set and transfer the desired power curve for an inverter. For this, the inverter must be in operation and detected by the software. In addition you have the possibility of setting the power curve without an inverter being in operation and detected by the software. You can set the power curve in the so-called "offline operation" and save it locally onto your computer and transfer it to the inverter later.

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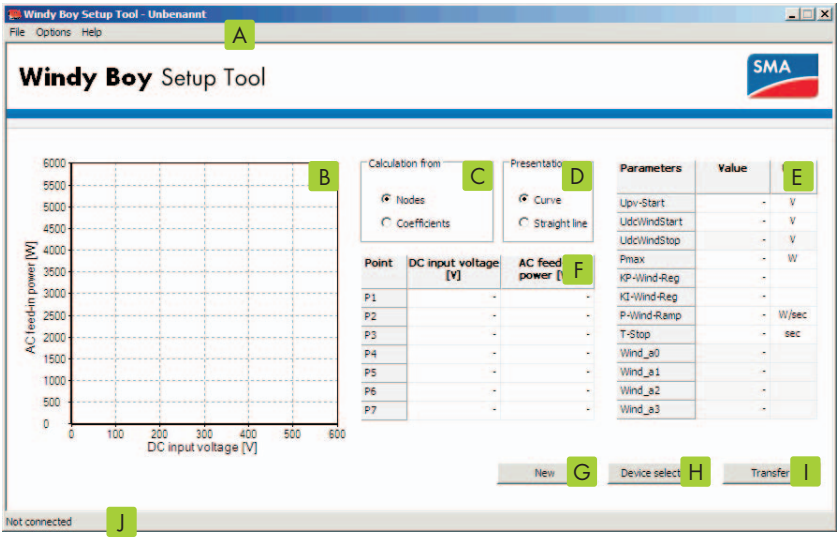
3 Description of the user interface

The following illustration shows the layout of the operating interface of the Windy Boy Setup Tool:



Object	Description	Function
A	Menu bar	The various items can be accessed via the menu bar.
B	Diagram of the power curve	The power curve of the inverter is displayed in this diagram.
C	Option field for calculation of the power curve	Here you can select whether the power curve should be calculated from nodes or from coefficients.
D	Option field for presentation of the power curve	Here you can select whether the power curve is presented as a curve or as a line.
E	Value range "Nodes"	In this area you can specify the nodes from which the power curve is calculated.
F	Value range "Parameters"	In this area you can enter the parameters of your inverter.
G	Button *[New]*	By using the button you can delete the entered data.
H	Button *[Device selection]*	By using this button you can select your inverter type and take on the factory-installed parameters.

Object	Description	Function
I	Button *[Transfer]*	By using this button the set data is sent to the inverter.
J	Status bar	The status bar displays the current status of the software. Here you will find the connection status to your inverter.

3.1 Menu bar

The menu bar contains the following items:

Menu	Items	Function
File	Open	With this you can load data already saved on your computer.
	Save	With this you can save entered data into the opened file.
	Save as...	With this you can save entered data into a new file.
	Last file	With this you can load one of the 4 last saved files.
	Quid	With this you can exit the software.
Options	Detecting the device	This opens the log-in window, in which you must log in. Upon log-in, the connected device is detected.
	Settings	This opens the *"Settings"* window, via which you can select the desired com-port and language.
Help	Help topics	With this you can open the software user manual.
	Info	This opens the *"Info"* window, in which information about the current software installation is displayed.

4 Getting started

4.1 Installation

You may install the software on various operating systems. Select your current operating system, onto which you would like to install the software:

- Install the software onto Windows XP as described in section 4.1.2 "Installing the software onto Windows XP" (page 10).
- Install the software onto Windows Vista as described in section 4.1.3 "Installing the software onto Windows Vista" (page 10).

4.1.1 System Requirements

Supported operating systems:	Windows XP version SP2 or higher, Windows Vista
Processor (XP):	PIII 800 MHz
Processor (Vista):	P4 1 GHz
Main memory (XP):	512 MB
Main memory (Vista):	1 GB RAM
Screen resolution:	1024 x 768 pixels
Supported languages:	German, English

4.1.2 Installing the software onto Windows XP

1. Run the *"Windy Boy Setup Tool.exe"* file by double-clicking with the left mouse button.
   ☑ The Windy Boy Setup Tool *"Installation Assistant"* opens.
2. Follow the "*Installation Assistant*" instructions.

☑ Software is installed onto Windows XP.

4.1.3 Installing the software onto Windows Vista

1. Run the *"Windy Boy Setup Tool.exe"* file by double-clicking with the left mouse button.
2. Confirm the Windows Vista security question.
   ☑ The Windy Boy Setup Tool *"Installation Assistant"* opens.
3. Follow the "*Installation Assistant*" instructions.

☑ Software is installed onto Windows Vista.

4.2 Select COM interface

In order to select the COM interface of your device, the inverter has to be in operation. Proceed as follows for the selection of the COM interface:

1. Select *"Options > Settings"* in the menu bar.
   ☑ The "Settings" window opens.
2. Select COM interface in the *"Com-Port"* field.
3. Select *[OK]*.

☑ COM interface is selected.

4.3 Setting the software language

The Windy Boy Setup Tool aligns itself to the language of your operating system. If your operating system is set to German, then the Windy Boy Setup Tool is also set to German. If your operating system is set to a language other than German, then the Windy Boy Setup Tool language is set to English.

In order to change the language setting, proceed as follows:

1. Select *"Options > Settings"* in the menu bar.
   ☑ The *"Settings"* window opens.
2. Select the desired language in the "*Language*" field.
3. Select *[OK]*.

☑ The software language is set.

4.4 Detecting Inverters

In order to detect and inverter, it must be in operation. Proceed as follows:

Installer password

Please contact the SMA Solar Technology Serviceline if you have any questions concerning the installer password (see 9 "Contact" (page 20)) .

1. Select *"Options > Detecting devices"* in the menu bar.
   ☑ The log-in window opens.
2. Enter the installer password in the "*Password*" field.
3. Select *[OK]*.

☑ The inverter is detected.

5 Settings

5.1 Taking over the inverter factory settings

In order to fit the power curve of an inverter to the wind turbine system optimally, you have to enter the parameters of the inverter in the "Parameter" value range. You have the possibility of entering the factory installed parameters and the coefficients (Wind_a_0 - Wind_a_3) of an inverter type automatically from the software. You can adjust the coefficients to your wind turbine system more exactly once they have been taken over.

In order to take over the factory settings of your inverter type, proceed as follows:

1. Select *[Device selection]*.
   ☑ The selection window opens.
2. Select the inverter type in the "*Device type*" field, whose power curve is to be adjusted.
3. Select *[OK]*.

☑ The factory settings and coefficients are loaded and displayed in the "Parameters" value range.

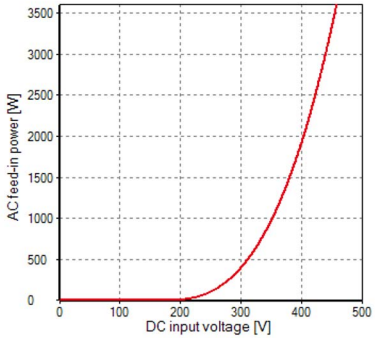
5.2 Entering the inverter parameters

If the factory installed parameters of an inverter have been changed, you must manually enter the adjusted parameters in the "Parameters" value range. Allocate the respective value for every parameter.

5.3 Displaying the power curve

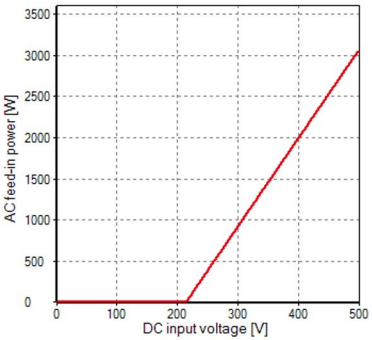
You have two different possibilities of displaying the power curve of the inverter:

- Display as a curve



or

- Display as a straight line



Select the desired display of the power curve in the *"Settings"* option field and set the mark to either *"Curve"* or *"Straight line"*.

5.4 Adjusting the power curve

There are two different ways that the software calculates the power curve of the inverter.

- Calculation from nodes

  or

- Calculation from Coefficients

Select whether the power curve is to be calculated from "*Nodes*" or from *"coefficients"* in the *"Calculation from"* option field and set the marker to "Nodes" or "coefficients".

If you have taken over the factory-installed parameters as described in section 5.1 "Taking over the inverter factory settings" (page 12), the coefficients (Wind_a_0 to Wind_a_3) are automatically adjusted in the "Parameters" value range. In this case you can let the power curve be calculated from coefficients.

5.4.1 Entering nodes

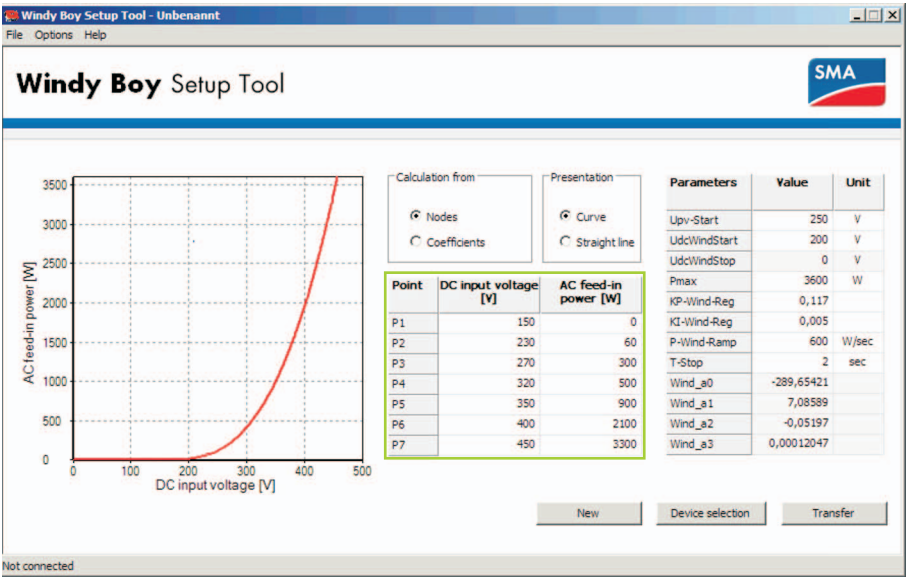
Enter the values of the nodes for the appointed wind turbine system in the "Nodes" value range. Enter all 7 nodes to construct an optimal power curve

If you want to construct a power curve with e.g. only 3 nodes (carryover of the 3 point characteristic curve), enter the first point several times in the "Nodes" value range (see figure).

Point	DC input voltage [V]	AC feed-in power [W]
P1	255	0
P2	255	0
P3	255	0
P4	255	0
P5	255	0
P6	310	800
P7	390	5000

Once you have entered the values for the individual nodes the power curve is displayed adjusted in the diagram and the software calculates the coefficients (Wind_a_0 to Wind_a_3) automatically, these finally being transferred to the "Parameters" value range. You can adjust the coefficients to your wind turbine system more exactly once they have been calculated.

The figure below graphs a power curve constructed by nodes.

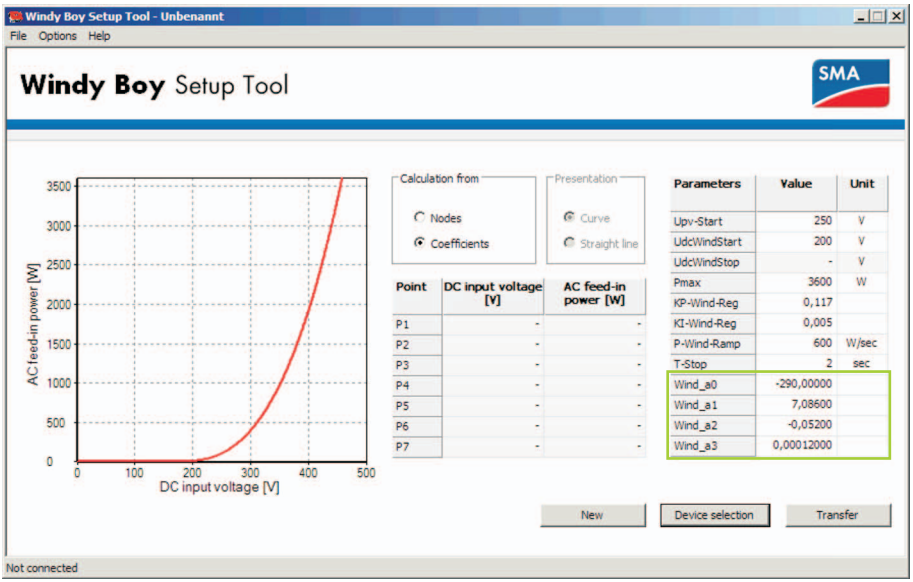


5.4.2 Entering Coefficients

Enter the values of the coefficients ("Wind_a_0" to "Wind_a_3") in the "Parameters" value range. Enter all coefficients, in order that the power curve can be adjusted optimally.

Once you have entered the coefficients, the power curve is displayed adjusted in the diagram.

The figure below graphs a power curve constructed by coefficients.



5.5 Changing the section of the power curve

You have the possibility of enlarging a certain section of the power curve. Click and drag a frame from the left top to the right button around the section you want to select.

To restore the view of the whole power curve, click and drag a frame from the right to the left.

6 Saving and loading data

6.1 Saving data

Once you have entered all the settings, you can save the data on your computer and reload it at another point in time. You have the possibility to save the data in the opened file. To this end, select "File > Save".

If you would like to save the data in a new file on you computer, proceed as follows:

1. In the menu bar, select *"File > Save"*.
   ☑ The "Save as" window opens.
2. Select the path, in which the file should be saved.
3. Enter the file name in the "File name" field.
4. Select *[Save]*.

☑ Data is saved onto your computer.

6.2 Loading data

You have the possibility to load saved data via *"File > Open"* in the menu bar, or to load one of the 4 last saved files directly via the file name in the menu bar under *"File"*.

If you would like to load saved data via *"File > Open"*, proceed as follows:

1. Open Windy Boy Setup Tool.
2. In the menu bar, select *"File > Open"*.
   ☑ The "Open" window opens.
3. Select the file that is to be opened.
4. Select *[Open]*.

☑ The file will be loaded.

7 Sending data to the inverter

As soon as you have set the power curve optimally, you can send the settings to the inverter. For this, the inverter must be in operation and detected by the software.

To send the data to the inverter, proceed as follows:

Installer password

Please contact the SMA Solar Technology Serviceline if you have any questions concerning the installer password (see 9 "Contact" (page 20)).

1. Select *[Transfer]*.

   ☑ The log-in window opens.

2. Enter the installer password in the "*Password*" field.
3. Select *[OK]*.

☑ Data is sent to the inverter. The inverter takes the setting on after it has been disconnected from the grid once and turned back on again.

8 Uninstalling the software

You can completely remove the software from your computer. Select your operating system and proceed as described in the following sections:

8.1 Uninstalling the software from Windows XP

1. Select *"Start > settings > control panel > software"* in Windows.
2. Select the software from the list and click on *[remove]*.

☑ The software is completely removed from your computer.

8.2 Uninstalling the software from Windows Vista

1. In Windows, select *"Start > Computer"*.
   ☑ "My Computer/Computer" opens.
2. Select "*Uninstall or change program*".
   ☑ The "*Uninstall or change program*" window opens.
3. Select the software from the list, and choose *[uninstall/change]*.

☑ The software is completely removed from your computer.

9 Contact

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

- Software version
- Communication type

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