



SolarEdge Configuration Tool Software Guide

Version 2.0



About This Guide

This user guide is intended for Photovoltaic (PV) system owners, installers, technicians, maintainers, administrators, and integrators who are authorized to configure the SolarEdge power harvesting system.

This guide describes how to use the SolarEdge Configuration Tool that runs in a standard Windows GUI, to configure SolarEdge site-specific parameters, and to display and troubleshoot site-specific issues.

This guide assumes that you have read the SolarEdge Installation Guide.

The guide includes the following chapters:

- *Chapter 1, Introduction*, on page 7, introduces the SolarEdge Configuration Tool and describes the workflow for installing and using this software application. This chapter also provides an overview of the user interface.
- *Chapter 2, Configuring an Inverter*, on page 17, describes each of the configuration tabs provided in the Configuration Tool.
- *Chapter 3, Setting Up Multiple Inverters*, on page 37, describes how to set up multiple Inverters in a Master/Slave configuration.

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Table of Contents

List of Figures	5
Support and Contact Information.....	6
Chapter 1, Introduction	7
What is the Configuration Tool?	7
Installing the SolarEdge Configuration Tool	8
Setting Up the Connection to the Inverter.....	Error! Bookmark not defined.
Starting the Configuration Tool	9
Defining the COM Port to the Inverter.....	10
Redefining the COM Port.....	10
Connecting to the Inverter	11
Main Window.....	11
Inverter List	12
Configuration Tool Tabs	12
Toolbar	13
System Specifications Section.....	14
Settings Section	14
Inverter LCD Display.....	15
Chapter 2, Configuring an Inverter.....	17
Communication Settings	17
Communication Dataflow	17
Communications Settings Tab.....	18
RS232 Status	19
RS485 Status	20
ZigBee Status	21
LAN Status	23
Server Connection Status	24
Inter-Inverter Comm Status.....	27
Regional Settings.....	Error! Bookmark not defined.
Optimizers Data	30
Adding an optimizer	33
Firmware Upgrade	33
Miscellaneous	35

Setting the Real-Time Clock.....	36
Chapter 3, Setting Up Multiple Inverters	37
Master/Slave Configuration	37
Setting the Communication Configuration of the Master	38
Reviewing Installation Information	39
Appendix A, Verifying the RS-232 COM Port.....	40
Verifying the RS-232 Port.....	40

List of Figures

Figure 1: Inverter Connectors	9
Figure 2: Selecting the COM Port.....	10
Figure 3: The Configuration Tool Main Window	11
Figure 4: Communication Settings Sub-Tab	18
Figure 5: RS232 Regular Communication	19
Figure 6: RS232 GSM Communication	20
Figure 7: RS485 Settings	21
Figure 8: ZigBee Enabled	22
Figure 9: LAN Settings when DHCP Disabled.....	23
Figure 10: Ping Test.....	25
Figure 11: Server Connection Settings.....	26
Figure 12: Inter-Inverter Communication Settings	28
Figure 13: Regional Settings Sub-Tab	29
Figure 14: Optimizers Data Tab.....	31
Figure 15: Adding an optimizer	33
Figure 16: Firmware Upgrade Sub-Tab	34
Figure 17: Miscellaneous Sub-Tab	35
Figure 18: Setting Real-Time Clock	36
Figure 19: Example of RS485 Bus Connection	37



Support and Contact Information

If you have technical problems concerning our products, contact us at:

USA & Worldwide Support Line: +1.650.319.8843

Germany: +49.89.23513100

France: +33.(0)970.465.662

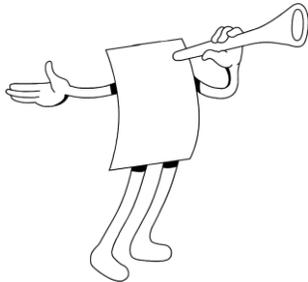
Israel: +972.73.2403116

Fax: +972.73.2403117

Email: support@solaredge.com

Alternatively, you can click the **Support**  option on the toolbar of the Configuration Tool's main window, and click the **Contact Us** button to automatically create a support report for the SolarEdge support team. In this case, your email client is opened with SolarEdge Support as the recipient. From the window that opens, you can either click **Send** to save the relevant site information in a textual .dat file, and send it to SolarEdge, or you can click **Save** to save it to the .dat file, for sending at a later time. This file includes various details about your installation, including all the serial numbers of the Inverters and Optimizers at the site, how the Inverters are configured, and a snapshot of the module level monitoring data. This information is in text format, enabling you to review it before sending it. These details help the SolarEdge support team diagnose the installation and provide site-specific troubleshooting information.

If you do not use the **Support** option described above, before contacting SolarEdge, collect the following information: Inverter and Optimizer types, serial number(s) of the relevant Inverter(s) and Optimizer(es) in question, the error indicated on the Inverter screen or on the SolarEdge Monitoring Portal, System configuration information (including the type and number of modules connected, and the number and length of strings), and the communication method to the SolarEdge server.



Chapter 1

Introduction

What is the Configuration Tool?

The SolarEdge Configuration Tool is a software application that enables you to configure SolarEdge site-specific parameters and to display and troubleshoot site-specific issues. The Configuration Tool provides a standard Windows GUI that can be accessed by connecting a computer or laptop to the Inverter through its RS-232 connector.

The Configuration Tool enables you to define various kinds of installation site-specific parameters, such as:

- The country's grid power specifications of the installation site
- The Inverter communication option used to interact with the SolarEdge Monitoring server
- The Inverter's status and Master/Slave configuration
- The firmware versions installed on the Inverter

The Configuration Tool also enables you to easily display and verify various site parameters, such as the Inverters' and Optimizers' serial numbers and power outputs.

The SolarEdge Configuration Tool provides several additional options that are not accessible using the LCD panel, such as enabling a firmware upgrade of the Inverter and retrieval of a list of the serial numbers of the Optimizers connected to the Inverter.

Installing the SolarEdge Configuration Tool

► **To install the SolarEdge Configuration Tool:**

- 1 Download the application from the SolarEdge website (see the following procedure) or drag the **InConfTool** folder from the supplied CD on to your computer.
- 2 Double-click the **setup.exe** installation file and follow the steps in the Setup Wizard.

► **To download the application from the SolarEdge website:**

- 1 On your browser, navigate to <http://www.solaredge.com>, and click the **Downloads** link.
- 2 In the **Downloads** tab, in **Categories**, select **Software Tools**.
- 3 In the drop-down list on the bottom of the page, select **SolarEdge Inverter Configuration Tool v2.0.2 – Software Download**.
- 4 From the *File Download* dialog box that opens, download the file.

Setting Up the Connection to the Inverter

Any standard laptop or PC can be used to run the SolarEdge Configuration Tool. To do so, it must be connected to the Inverter. If you are connecting multiple Inverters (refer to *Chapter 3, Setting Up Multiple Inverters* on page 37), you can connect the PC either to a Slave Inverter or to the Master Inverter.

**NOTE:**

At any time, you can connect a standard PC or computer to the Inverter without turning it off, in order to display general information about the Inverter(s) and the Optimizers to which it is connected at the site. However, be aware that changing parameters or firmware, results in the Configuration Tool shutting off and restarting the Inverter.

► To connect to the Inverter:

- 1 Connect the Inverter's RS-232 connector to a laptop or personal computer (PC).

If the computer does not have an RS-232 connector, you can use an RS-232/USB adapter.

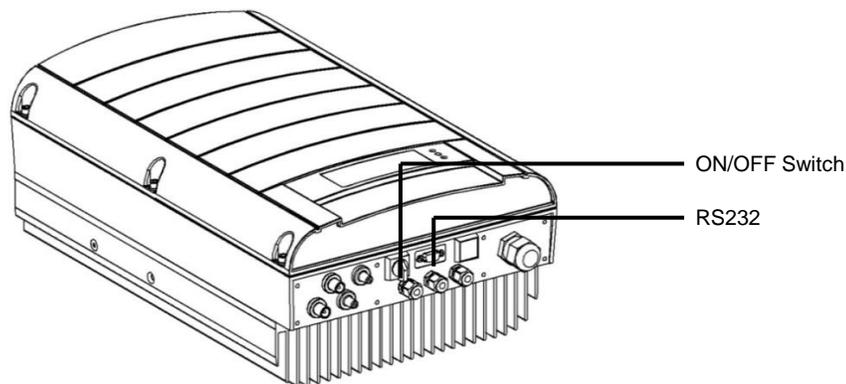


Figure 1: Inverter Connectors

Starting the Configuration Tool

► To launch the Configuration Tool:

- Double-click the SolarEdge Configuration Tool icon



Defining COM Port to Inverter

The first time that you launch the Configuration Tool, the *Connect to Device* window opens.

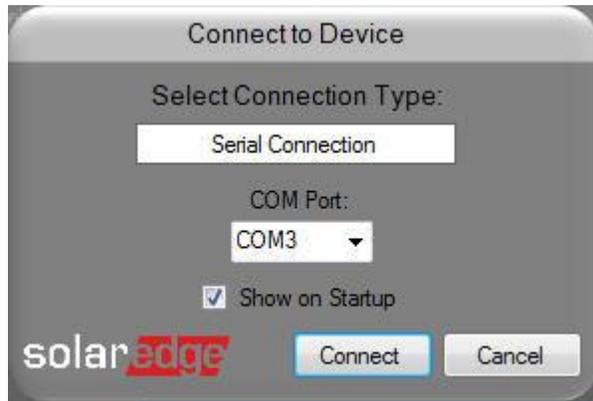


Figure 2: Selecting the COM Port

In this window, you must specify the COM port through which the computer is to communicate with the Inverter. To do so, you must verify the RS-232 COM port on your computer. Instructions are provided in *Appendix A, Verifying the RS-232 COM Port*, on page 40.

Selecting the **Show on Startup** checkbox causes subsequent launches of the Configuration Tool to view this window upon startup, without having to select the **Connect** button.

Redefining the COM Port

At any time, you can change the COM port through which the computer connects to the Inverter.

► **To redefine the COM port through which the computer connects:**

- On the toolbar, select the Options  button to redisplay the *Connect to Device* window (see Figure 2).

Connecting to the Inverter

When the computer is not connected to the Inverter, the **CONNECTION STATUS** displayed in the toolbar becomes **OFFLINE**. In this case, you can connect the computer to the Inverter through the predefined COM port.

► To connect to the Inverter:

- In the Configuration Tool main window, in the toolbar, click the Connect  button.

The Connect button changes to Disconnect  and the **CONNECTION STATUS** displayed in the toolbar becomes **ONLINE**.

Main Window

After the Configuration Tool is launched and connected, the Main Window displays the Inverter Information.

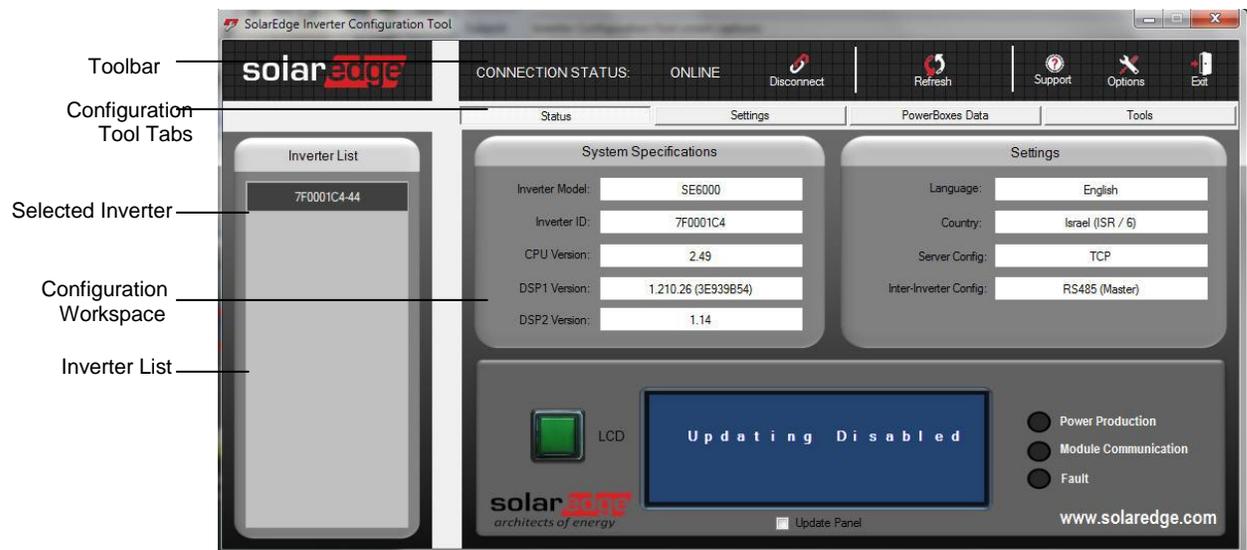


Figure 3: The Configuration Tool Main Window

The Main Window is comprised of the following areas:

- Inverter List (see page 12)
- Configuration Tool Tabs (see page 12)
- Toolbar (see page 13)
- Configuration Workspace, which contains the following three sections:
 - System Specifications (see page 14)
 - Settings (see page 14)
 - Inverter LCD display – bottom pane (see page 15)

Inverter List

The Inverter List displays a list of the Inverters to which the Configuration Tool is connected, as well as each one's serial number.

Selecting an Inverter in this list displays its information in the Configuration Workspace and enables you to configure it.

If the installation site has more than one Inverter, the Slave Inverters are connected to the Master Inverter in a bus through their RS485 connectors.. The Inverter List indicates which Inverter is the Master by displaying an **(M)** next to its serial number. The laptop or PC on which the Configuration Tool is installed must be connected to one of the Inverters.

Configuration Tool Tabs

There are four Configuration Tool tabs, which enable viewing the status of the Inverter and configuring its parameters. Two of the tabs each contain two sub-tabs. The information in these tabs/sub-tabs is described in *Table 1*.

Table 1: Configuration Tabs

Tab	Sub-Tab	Description
Status		Displays general information about the selected Inverter; its parameters are not editable. For more information, refer to page 17.

Tab	Sub-Tab	Description
Settings	Communication Settings	Displays information about the communication method used to transfer SolarEdge site information to the SolarEdge Monitoring Portal. For more information, refer to page 17.
	Regional Settings	Displays various aspects (such as power and language) of the Inverter that relate to the country in which it is installed. For more information, refer to page 29.
Optimizers Data		Displays information about the Optimizers connected to the selected Inverter. For more information, refer to page 30.
Tools	Firmware Upgrade	Enables you to upgrade the firmware of the CPU, DSP1, and/or DSP2 versions. For more information, refer to page 34.
	Miscellaneous	Enables you to set the RTC and to enable/disable power balancing. For more information, refer to page 35.

Toolbar

Table 2 describes the Configuration Tool toolbar buttons.

Table 2: Toolbar Buttons

Button	Function
 Connect	Connects the computer to the Inverter through the defined COM port. Refer to the <i>Connecting to the Inverter</i> section on page 11 for more information.
 Refresh	Refreshes the currently displayed information on the Configuration Tool screen, by reading the current data from the Inverter.
 Support	Displays a window which describes how to contact SolarEdge support. Refer to the section on page 37 for more information.
 Options	Enables you to redefine the COM port through which the computer connects. Refer to the <i>Defining the COM Port to the Inverter</i> section on page 10 for more information.

Button	Function
	Exits the Configuration Tool application. Make sure to save all changes before exiting. Before disconnecting the Inverter, make sure that you have saved all changes and exited the Configuration Tool application.

System Specifications Section

describes the parameters in the **System Specifications** section.

Table 3: System Specifications Parameters

Parameter	Description
Inverter Model	Specifies the model number of the Inverter; for example, SE3300, SE4000, and SE5000.
Inverter ID	Specifies the serial number of the Inverter. This serial number appears on the sticker on the side of the Inverter. The Inverter serial number is also indicated on the warranty card that is provided with the Inverter.
CPU Version	Specifies the firmware version of the Inverter's CPU.
DSP1 Version	Specifies the firmware version of the Inverter's DSP1.
DSP2 Version	Specifies the firmware version of the Inverter's DSP2.

Settings Section

The following are the fields in the **Settings** section.

Table 4: Settings Section Parameters

Parameter	Description
Language	Specifies the language of the Inverter interface. This is the language of the Inverter LCD panel display. The language can be changed in the Regional Settings tab, as described in the Regional Settings section on page 29.
Country	Specifies the country for which the Inverter is configured. This determines the electrical specifications of the Inverter. The Country configuration can be changed in the Regional Settings tab, as described in the Regional Settings section on page 29.

Parameter	Description
Server Config	<p>Specifies the communication method used to transfer the monitored information from the Inverter to the SolarEdge Monitoring Server. Available communication methods are:</p> <ul style="list-style-type: none"> ▪ None – Specifies that the Inverter is not configured to communicate with the SolarEdge Monitoring Server. ▪ TCP (Ethernet) – Specifies that the Inverter is connected directly to a LAN. ▪ RS485 – Specifies that the Inverter is connected directly to a LAN. ▪ RS232 (UART) – Specifies that the Inverter is connected to an external modem through the RS-232 port. ▪ ZigBee – Specifies that this Inverter is wirelessly connected to an external ZigBee modem or Master modem for outputting monitoring data. <p>For more information, refer to the <i>Communication Tab</i> section on page 18.</p>
Inter-Inverter Config	<p>When more than one Inverter is connected at a site, you can connect the Inverters with a bus connection. This parameter specifies the bus connection, such as RS485, and whether this Inverter is a Slave or a Master. Refer to <i>Chapter 4, Setting Up Multiple Inverters</i> on page 37 for more information.</p>

Inverter LCD Display

The bottom pane of the Main Window displays the LCD button, LCD display, and LEDS that are displayed on the Inverter front panel. It enables you to remotely view the Inverter panel display.

Table 5: Inverter LCD Display Features

Feature	Description
LCD green button	The Inverter displays a number of different screens. Pressing this button scrolls through the screens of the Inverter.
LCD display	Displays the screen that is currently on the Inverter LCD display.
LEDS: Power Production, Module Communication, and Fault	These are the LEDS on the Inverter front panel; they show the current status of the Inverter.

Feature	Description
Update Panel	As the parameters of the Inverter are constantly changing, the LCD displays are also constantly changing. Selecting this checkbox displays on the Main Window, the most updated LCD display. Clearing this checkbox freezes the LCD display.



Chapter 2

Configuring an Inverter

Communication Settings

Communication Dataflow

The SolarEdge site information can be accessed remotely using the SolarEdge Monitoring Portal, as described in the *SolarEdge Monitoring Portal User Guide*.

In order to transfer monitoring data from a SolarEdge site to the SolarEdge Monitoring Portal, a communication connection must be set up, as described below. Communication setup is not required for power harvesting.

Optimizers send information to the SolarEdge Inverter via DC lines. No added wires or configuration are required for this purpose. The Inverter sends this information to the SolarEdge Monitoring Server through the Internet.

For more information about installation and connection, refer to the *SolarEdge Installation Guide*.

Communications Settings Tab

The **Communication Settings** tab is opened from the **Settings** tab in the Main Window. It enables you to view the communication method used to transfer SolarEdge site information to the SolarEdge Monitoring Portal, and to change it, as required.

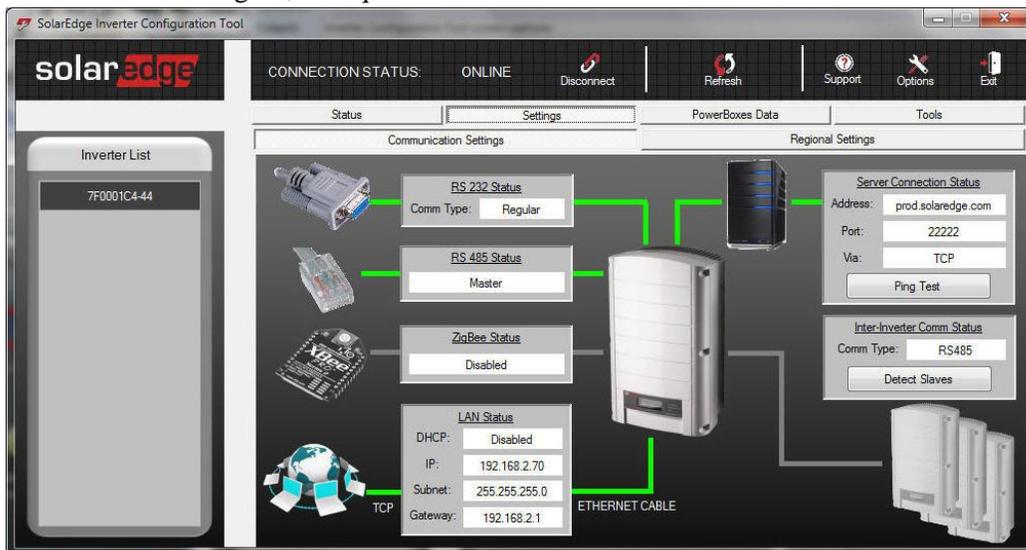


Figure 4: Communication Settings Sub-Tab

The Communications Settings screen displays the current communication settings of the Inverter. Each of the following communication connection settings is displayed on the screen in an individual sub-window: **RS232**, **RS485**, **ZigBee**, **LAN**, **Server Connection**, and **Inter-Inverter Comm**.

The Communications Settings screen displays color-coded lines between the sub-windows and system components, which show the status of each communication connection, as follows:

- **Green** – The interface is on and working well
- **Grey** – The interface is not being used
- **Red** – There is an error with the interface

You can change the settings of any communication connection, by clicking anywhere in its sub-window. This opens up a window for configuring new parameter values for that communication connection. After configuring the settings, you can click the **Apply** button on the window to upload the new parameters. After the Configuration Tool finishes uploading the parameters to the Inverter, the Inverter automatically shuts down and restarts.

The following sections describe the sub-windows in the Communication Settings window, along with their corresponding windows for configuring new parameter settings.

RS232 Status

Table 6 describes the parameter displayed in the RS232 Status sub-window in the Communication Settings window.

Table 6: RS232 Status Parameter

Parameter	Description
Comm Type	Specifies the type of serial communication between the laptop or external modem, and the Inverter. Possible values are: <ul style="list-style-type: none">▪ Regular – Serial cable connection▪ GSM – External serially connected GSM modem

Setting the RS232 Parameters

Clicking inside the RS232 Status sub-window displays the relevant RS232 Settings screen (regular or GSM).



Figure 5: RS232 Regular Communication

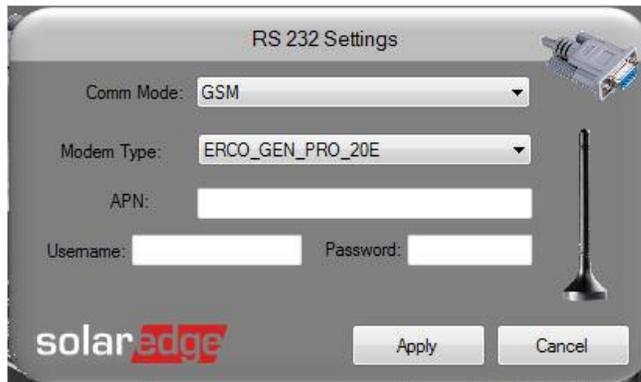


Figure 6: RS232 GSM Communication

Changing the **Comm Type** value (from **Regular** to **GSM**, or vice versa), changes the RS232 Settings screen that appears.

The parameters on the window that appear for **Comm Type = GSM** (see *Figure 6*) are attainable through your mobile operator.

Table 7: RS232 GSM Parameters

Parameter	Description
Modem Type	Select the make and model of the GSM modem.
APN	Type the Access Point Name, which is a GPRS network identifier.
Username, Password	Type the username and password for accessing GPRS; these fields must be filled in, only if your carrier policy requires them.

RS485 Status

Inverters can be connected to each other at a single site through an RS485 bus connection. In this case, one Inverter is the Master, and the remaining Inverters are the Slaves. In this sub-window, you can display the RS485 status of the selected Inverter:

- **Slave** – the default
- **Master**

Setting the RS485 Parameters

Clicking inside the RS485 Status sub-window displays the RS485 Settings window, in which you can change the status of the Inverter from Master to Slave or vice versa, as required.

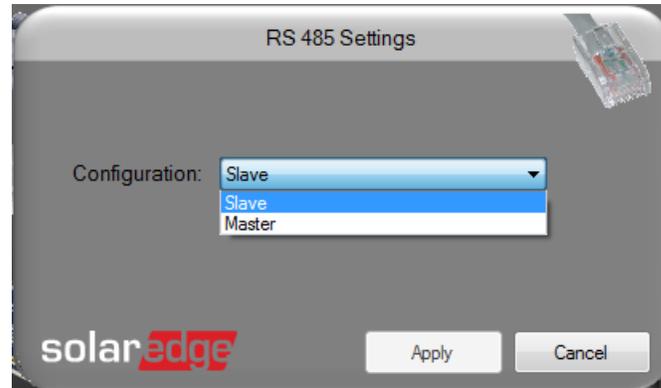


Figure 7: RS485 Settings

Refer to *Chapter 4, Setting Up Multiple Inverters*, on page 37 for more information about defining an Inverter as a Master or Slave.

This field has no relationship to the definition of the communication method used to transfer the monitored information from the Inverter to the SolarEdge Monitoring Server, as defined in the Inter-Inverter Comm Status **Comm Type** field, in the *Inter-Inverter Comm Status* section.

ZigBee Status

The ZigBee sub-window displays the ZigBee status of the selected Inverter:

- Disabled – if the ZigBee modem is not installed in the Inverter
- Master – if a ZigBee Coordinator is installed in the Inverter
- Slave – if a ZigBee Slave is installed in the Inverter

Setting the ZigBee Parameters

Clicking inside the ZigBee Status sub-window displays the relevant ZigBee Settings window.

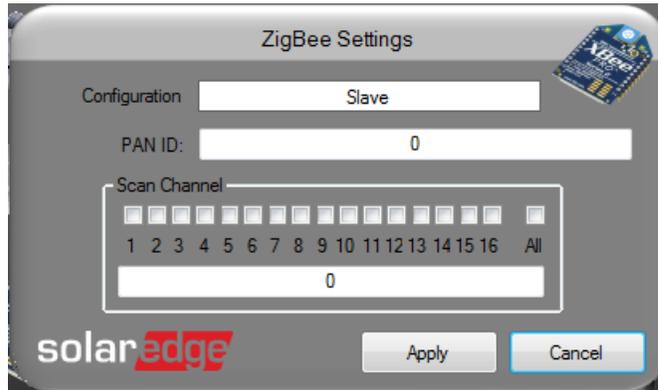


Figure 8: ZigBee Enabled

Table 8 describes the parameters of the ZigBee Settings window.

Table 8: ZigBee Parameters

Parameter	Description
Configuration	Type one of the following: <ul style="list-style-type: none"> ▪ Master – if the ZigBee Coordinator is installed in the Inverter ▪ Slave – if the ZigBee Slave is installed in the Inverter ▪ Disabled – if the ZigBee modem is not installed in the Inverter
Pan ID	<ul style="list-style-type: none"> ▪ For ZigBee enabled, type the external ZigBee modem Personal Area Network ID in hex. This ID differentiates this group from other groups of Inverters that may be installed in the vicinity. ▪ For ZigBee disabled, type 0.
Scan Channel	<ul style="list-style-type: none"> ▪ For ZigBee enabled, select the external modem network channel, in hex. This enables manually checking which of 16 frequencies the ZigBee supports. You can force a specific channel, if required. ▪ For ZigBee disabled, type 0.

After changing the ZigBee settings, you must click the **Apply** button, in order to configure the internal parameters to the ZigBee card.

LAN Status

The LAN Status sub-window displays the settings of the communication parameters of the router interface, used to connect the Inverter to the Internet. *Table 9* describes these parameters.

Table 9: LAN Status Parameters

Parameter	Description
DHCP	<ul style="list-style-type: none">When DHCP is Enabled, the Inverter's IP address has automatically been set by the Internet Gateway, and is displayed in the IP field (the following parameter).When DHCP is Disabled, you have to manually enter a fixed IP address for this Inverter.
IP	Displays the current IP address of the Inverter.
Subnet	A router parameter used for connecting to the Internet.
Gateway	A router parameter used for connecting to the Internet.

Setting the LAN Parameters

Clicking inside the LAN Status sub-window opens the LAN Settings window.

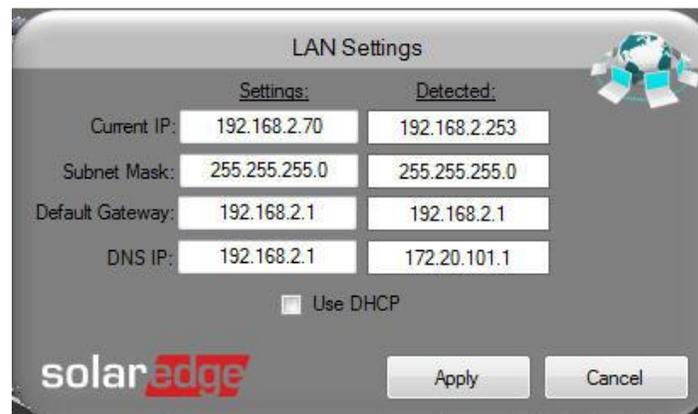


Figure 9: LAN Settings when DHCP Disabled

If **DHCP** is **Enabled** in the Communication Settings window, the **Use DHCP** checkbox is selected, and the **Settings** column is disabled.

Table 9 describes the parameters of the LAN Settings window **Settings** column.

Table 10: LAN Settings Parameters

Parameter	Description
Use DHCP	Clear the Use DHCP checkbox to disable DHCP. This opens the LAN Settings window in <i>Figure 9</i> . In this case, you must enter values for the Setting parameters, so that the fixed IP address of the Inverter can be calculated. Select the Use DHCP checkbox to enable DHCP. This disables the Settings column parameters, as the settings are set automatically by the Internet Gateway.
Current IP	This parameter is enabled when DHCP is disabled. Type the value of this router parameter, which is used for connecting to the Internet.
Subnet Mask	This parameter is enabled when DHCP is disabled. Type the subnet mask.
Default Gateway	This parameter is enabled when DHCP is disabled. Type the IP address of the default gateway
DNS IP	This parameter is enabled when DHCP is disabled. Type the IP address of the Domain Name Server

Server Connection Status

The Server Connection Status sub-window includes:

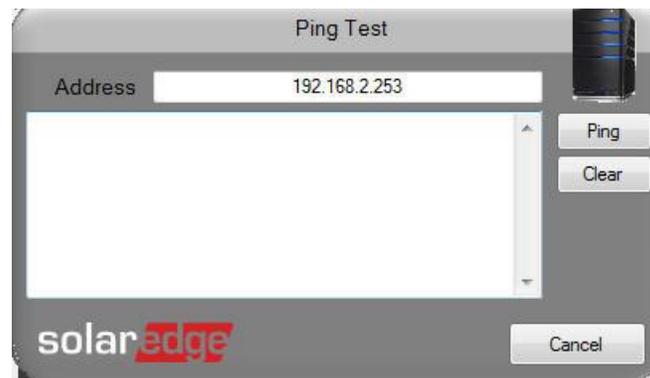
- **Parameters**, which are used to configure the address of the SolarEdge Server. These parameters generally should not be changed.
- **Ping Test** button –links you to a Ping Test for testing the communication between the Monitoring Server and the Inverter(see following section)

Table 11: Server Connection Status Parameters

Parameter	Description
Address	The address of the Monitoring Server.
Port	The port of the Monitoring Server.
Via	Specifies the communication method used to transfer the monitored information from the Inverter to the SolarEdge Monitoring Server.

Performing the Ping Test

Clicking the **Ping Test** button in the Monitor Server Status sub-window, opens the *Ping Test* window.

**Figure 10: Ping Test**

In the *Ping Test* window, you can set the parameters for the Ping Test, and then perform the test.

Table 12: Ping Test Parameters/Buttons

Parameter/Button	Description
Address	Type the address of the Monitoring Server that is displayed in the Address field in the Monitor Server Status sub-window.
[Ping]	Click this button to check the communication between the Server and Inverter.
[Clear]	Clears the Ping results pane.
[Cancel]	Click this button to cancel the Ping Test.
Ping results pane	Displays a Success message, if the Ping Test results indicate a successful connection between the Monitoring Server and the

Parameter/Button	Description
	Inverter; otherwise, it displays a Failure message.

**NOTE:**

If your Inverter does not indicate a proper connection to the SolarEdge Server (indicated by **S_OK** on the Inverter's LCD screen), you can use the Ping option to ping any Internet site in order to verify whether the problem is an Internet connection or configuration problem. If you cannot ping any sites, you should check the IP configuration and your local firewall settings.

Setting the Server Connection Parameters

Clicking inside the Server Connection Status sub-window opens the Server Connection Settings window.

**NOTE:**

Generally, the Server Connection settings should not be changed.

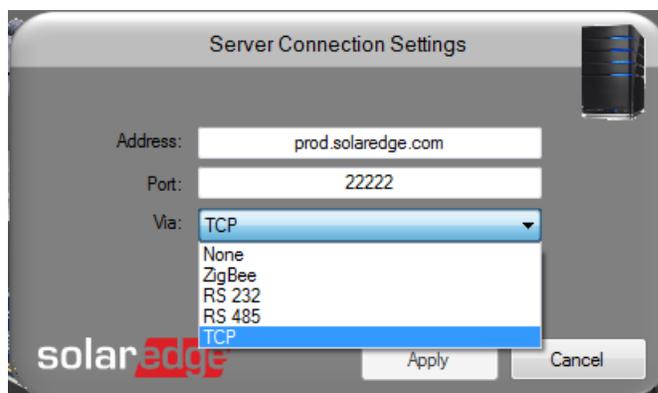


Figure 11: Server Connection Settings

The Server Connection Settings parameters are defined in *Table 13*.

Table 13: Server Connection Settings Parameters

Parameter	Description
Address	Type the address of the Monitoring Server.
Port	Type the port of the Monitoring Server.

Parameter	Description
Via	<p>Select the communication method used to transfer the monitored information from the Inverter to the SolarEdge Monitoring Server.</p> <p>Available options are:</p> <ul style="list-style-type: none"> ▪ None – Specifies that the Inverter is not configured to communicate with the SolarEdge Monitoring Server. ▪ Ethernet (TCP) – Enables the connection of the Inverter directly to a LAN. ▪ RS485 – If multiple Inverters are connected through an RS485 bus in a Master/Slave relationship, selecting this option specifies that the Slaves on this bus will output the monitoring data via this RS485. ▪ RS232 (UART) – Enables the connection of the Inverter to an external modem through the RS-232 port. ▪ ZigBee – Enables you to specify that this Inverter is wirelessly connected to an external ZigBee modem or a Master modem for outputting monitoring data.

Inter-Inverter Comm Status

The Configuration Tool is connected either to a Slave Inverter or a Master Inverter. This sub-window displays the logical communication mode between the Master Inverter and Slave Invertors. Also, if the selected Inverter is a Master, you can detect and display all its Slaves in the Inverter List. The parameter and button of this sub-window are described in *Table 14*.

Table 14: Inter-Inverter Comm Status Parameters/Button

Parameter/Button	Description
Comm Type	The logical communication mode between the Master Inverter and Slave Invertors.
[Detect Slaves]	Click this button to detect all the Slave Invertors connected to the Master Inverter, and to display them and their serial numbers in the Inverter list on the left of the Main Window. The Inverter List indicates the Master Inverter by displaying an (M) next to its serial number.

Setting the Inter-Inverter Communication Parameters

Clicking inside the Inter-Inverter Comm Status sub-window displays the Inter-Inverter Communication Settings window.

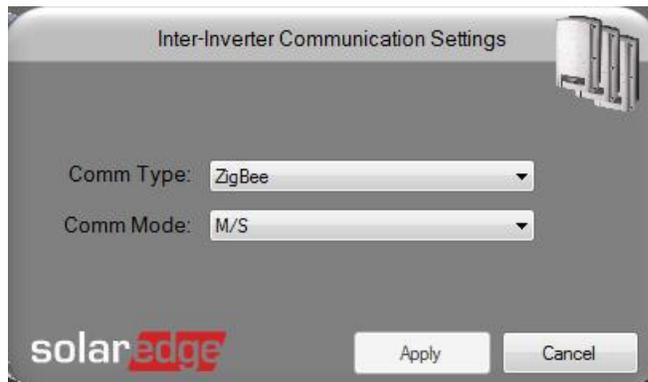


Figure 12: Inter-Inverter Communication Settings

Table 15 describes the parameters of this window.

Table 15: Inter-Inverter Communication Settings Parameters

Parameter	Description
Comm Type	Select the logical communication between the Slave Inverters and the Master Inverter. Possible options are: <ul style="list-style-type: none"> ▪ RS485 ▪ ZigBee
Comm Mode	When Comm Type is ZigBee , enables defining the ZigBee communication mode, as either: <ul style="list-style-type: none"> ▪ Peer to Peer – Full Mesh ▪ M/S – Point-to-point communication (M/S)

Regional Settings

The **Regional Settings** sub-tab can be opened from the **Settings** tab on the Main Window. The Inverter arrives preconfigured in the local language.

This window displays the current Inverter values, and enables you to configure various aspects of the Inverter that relate to the country in which the SolarEdge site is installed. Several parameters can be viewed or changed only by certified technicians or SolarEdge personnel.



Figure 13: Regional Settings Sub-Tab

Table 16: Regional Settings Parameters

Parameter	Description
Language	Select the interface language of the Inverter; this is the language in which the LCD panel of the Inverter is displayed.
Country	Select the country for which the Inverter's power parameters are configured. The DSP1 parameters (see following field) are automatically set according to the country that is selected in this field.
DSP1 Parameters	Specifies the Inverter's power parameters. (Refer to <i>Table 17</i> for the meanings of these parameters.) These values are set automatically according to the country that is selected in the Country field, as described above. The parameters for each country are specified according to each

Parameter	Description
	country's local certification requirements. However, if you get proper authorization from your local grid and code bodies, these parameters can be changed to accommodate different grid parameters. After getting this authorization, contact SolarEdge for instructions on how to change these parameters.
[Apply]	Click this button to upload the new Regional parameters to the Inverter. After the Configuration Tool finishes uploading the parameters to the Inverter, the Inverter automatically shuts down and restarts.

Table 17 shows the DSP1 parameters and their meanings. Note that these parameters have a viewing access level and change access level.

Monitoring is the lowest level access.

Table 17: DSP1 Parameter Definitions

Parameter	Meaning	Write Access	Viewing
INVGRID_VOUT_MAX	Maximum Grid Voltage – transient (V)	Technician	Monitoring
INVGRID_VOUT_MIN	Minimum Grid Voltage (V)	Technician	Monitoring
INVGRID_VOUT_MAX2	Maximum Grid Voltage – steady state (V)	Technician	Monitoring
INVGRID_F_GRID_MAX	Maximum Grid Frequency (Hz)	Technician	Monitoring
INVGRID_F_GRID_MIN	Minimum Grid Frequency (Hz)	Technician	Monitoring

Optimizers Data

The **Optimizers Data** tab comprises two sections:

- **Connected Optimizers Live Parameters** – a table which displays information about the Optimizers that are connected to the selected Inverter
- **Data Control** – buttons for performing operations on Optimizer Records, Optimizer Data, and Telemetry Control

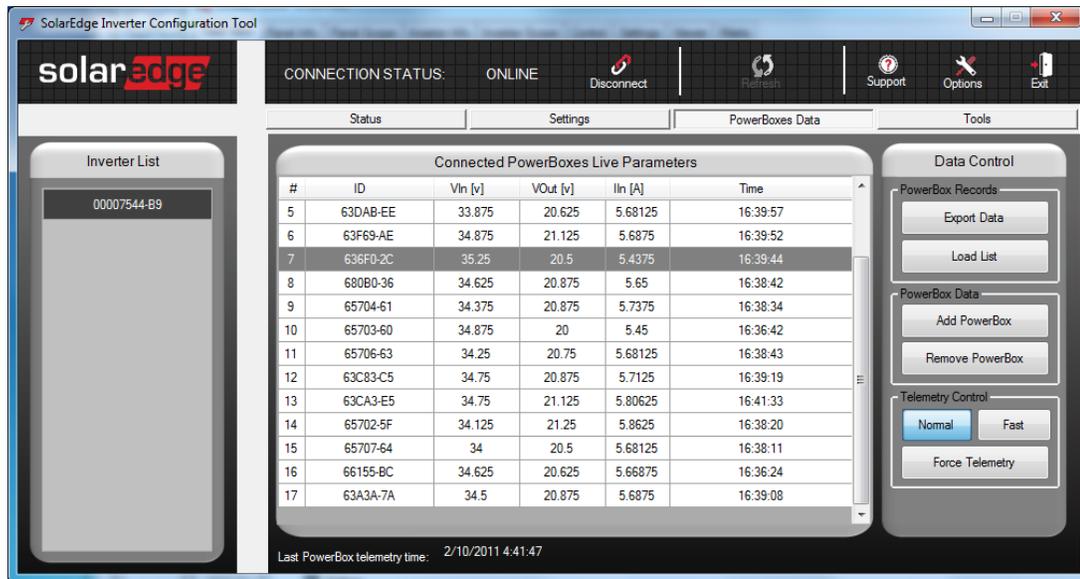


Figure 14: Optimizers Data Tab

The Inverter automatically identifies the serial numbers of the Optimizers connected to it, and lists them and the other Optimizer information, in the Connected Optimizers Live Parameters table. The table is refreshed periodically, thus displaying the latest statuses of the Optimizers connected to the Inverter(s). Table 18 describes the parameters of the Optimizers.

Table 18: Connected Optimizers Live Parameters

Parameter	Description
#	Specifies a sequential number of the rows in this window
ID	Specifies the unique identifier of the Optimizer
VIn [v]	Specifies the DC input voltage to the Optimizer, in Volts
VOut [v]	Specifies the DC output voltage from the Optimizer, in Volts
IIn [A]	Specifies the input current to the Optimizer, in Amperes
Version	Specifies the software version of the Optimizer.
Time	Specifies the last time that the telemetry of the data was received; this indicates the time of the data

Table 19 describes the functions of the Data Control buttons.

Table 19: Data Control Buttons

Button	Function
Export Data	Clicking this button saves the Optimizers' parameters information on this screen to an Excel file. A standard file selection window is displayed, enabling you to specify a file with an .xls file extension to which to save the information.
Load List	Clicking this button loads the Optimizers' parameters information from an Excel file onto this screen. A standard file selection window is displayed, enabling you to specify the file with an .xls file extension, which you want to load.
Add Optimizer	Clicking this button manually enables you to add a specific Optimizer to the list (see <i>Adding an Optimizer</i> section). This is used in the event that you replace a defective optimizer.
Remove Optimizer	Clicking this button removes an optimizer from the list. This is used if for some reason you removed an optimizer from installation.
Update Versions	Clicking this button updates the software version of the Optimizer firmware. This changes the software of all the Optimizers.
Normal	Clicking this button returns communication to Normal speed.
Fast	By default, each Optimizer communicates when it wants to (about every five minutes), and there is no synchronization between the Optimizers. Clicking this button causes Optimizers to communicate constantly. A disclaimer appears. This feature is convenient for speeding up installation.
Force Telemetry	Clicking this button after highlighting an optimizer on the list, displays the telemetry of that Optimizer.

Adding an Optimizer

You can manually add an optimizer to an Inverter. This may be necessary if an optimizer has to be replaced. Clicking the Add Optimizer Data Control button opens the following window.

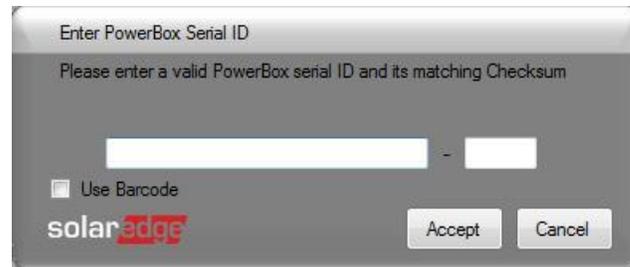


Figure 15: Adding an optimizer

Table 20: Enter Optimizer Serial ID

Parameter	Description
Serial ID	Type the Optimizer serial ID.
Checksum	Type the Optimizer Checksum.
Use Barcode	Select this checkbox to use the information on the Optimizer barcode. This feature can be used provided that a barcode scanner is connected to your computer.
[Accept]	Add the Optimizer to the list of Optimizers.

Firmware Upgrade

The Firmware Upgrade sub-tab can be opened from the Tools tab on the Main Window. It enables you to update the firmware version of the CPU, DSP1, and/or DSP2.

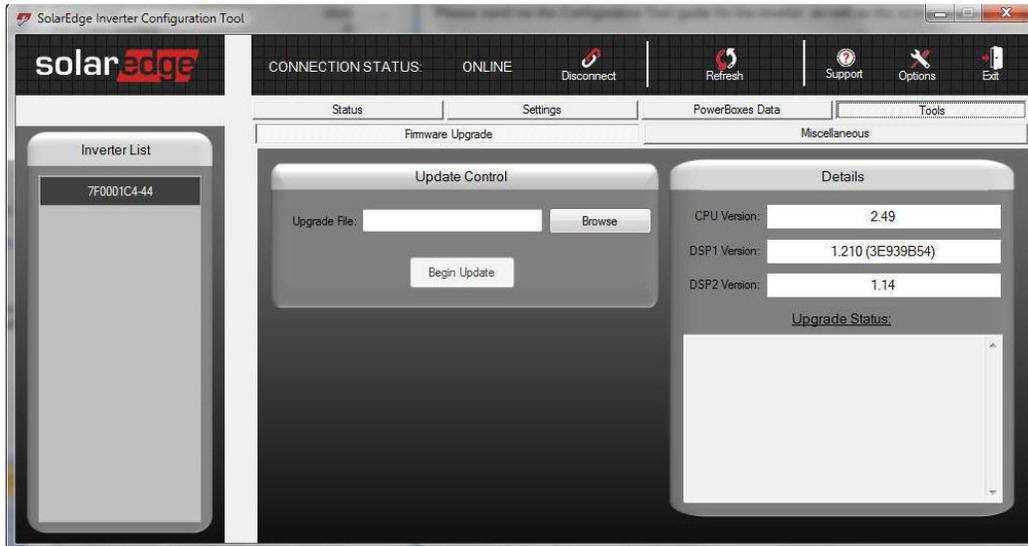


Figure 16: Firmware Upgrade Sub-Tab

You can upgrade the Inverter’s firmware in case an upgrade is necessary as per a directive from SolarEdge. As upgrading the Inverter firmware requires restarting the Inverter, it is recommended to do so at a time when the restart least interferes with performance, such as after sundown.

Table 21 describes the parameters and button in this window.

Table 21: Firmware Upgrade Parameters

Parameter/Button	Description
Upgrade File	The new firmware file (.dat file extension). Selected by clicking Browse and from the window that appears, selecting the file.
[Begin Update]	Click this button to update the firmware versions of the Inverter's CPU, DSP1, and DSP2.
CPU Version	The firmware version of the Inverter's CPU.
DSP1 Version	The firmware version of the Inverter's DSP1.
DSP2 Version	The firmware version of the Inverter's DSP2.
Upgrade Status	Displays the progress of the firmware upgrade.

Miscellaneous

The **Miscellaneous** tab sub-tab is opened from the **Tools** tab on the Main Window. It enables you to set the following:

- **Real-Time Clock (RTC)** – Generating accurate reports such as daily energy statistical reports, requires the Inverter real-time clock to be set accurately. The Inverter real-time clock arrives set, and is automatically updated by the server. However, if you do not have a server connection, you may have to set the clock.
- **Power Balancing status** – After installing a power balancer in the Inverter according to its installation manual, you are required to enable it.

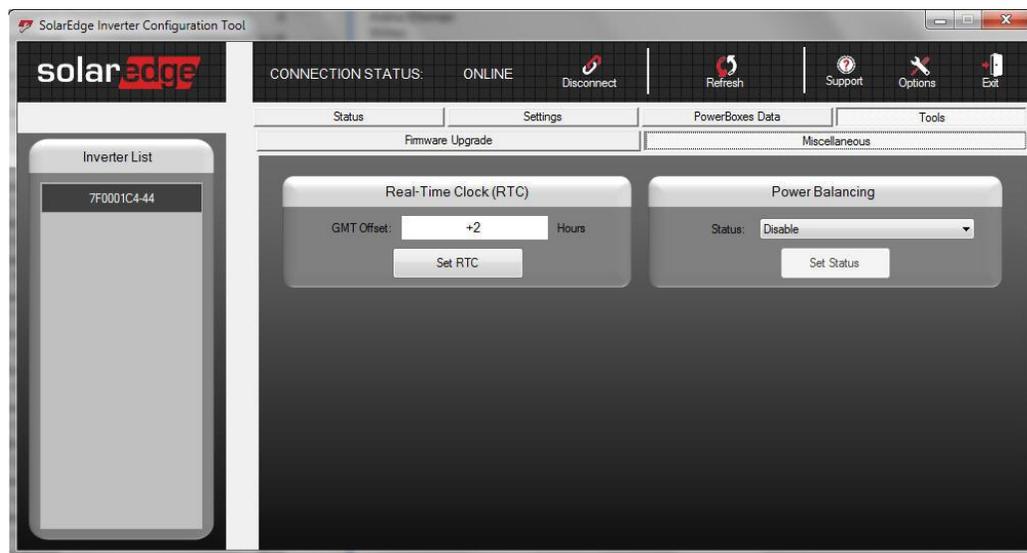


Figure 17: Miscellaneous Sub-Tab

Table 22 describes the parameters and buttons in this window:

Table 22: Miscellaneous Parameters

Parameter/Button	Description
GMT Offset	Displays the current GMT offset in hours.
[Set RTC]	Click this button to set the real-time clock. Opens a window for setting the real-time clock of the Inverter.

Parameter/Button	Description
Status	Select one of the following options: <ul style="list-style-type: none"> ▪ Enable – to enable Power Balancing. ▪ Disable – to disable Power Balancing
[Set Status]	Click this button to set the Power Balancing status.

Setting the Real-Time Clock

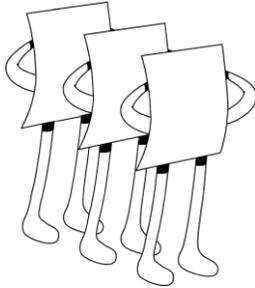
Clicking the **Set RTC** button in the **Miscellaneous** sub-tab of the **Tools** tab displays the *lbIRTCMessageHeader* window.



Figure 18: Setting Real-Time Clock

Table 23: lbIRTCMessageHeader Parameters/Button

Parameter/Button	Description
Local Time to set	Displays the Windows time (see next button).
[Get Local Time]	Click this button to set the Inverter time to the Windows time and to display the time in the Local Time to set field.
Current GMT Offset to set	Select the GMT offset in hours and minutes.
[Accept]	Click this button to set the real-time clock of the Inverter.



Chapter 3

Setting Up Multiple Inverters

Master/Slave Configuration

You can set up multiple Inverters at a single site in a Master/Slave configuration, by connecting the Inverters to each other in an RS485 bus. An RS485 bus of Inverters can consist of up to 30 Slave Inverters and one Master Inverter. Inverters are connected to each other in a chain, meaning that the first Inverter in the chain is connected to the next Inverter in the chain via its RS485 connector. The first Inverter in the chain and the last Inverter in the chain must be terminated, as shown below

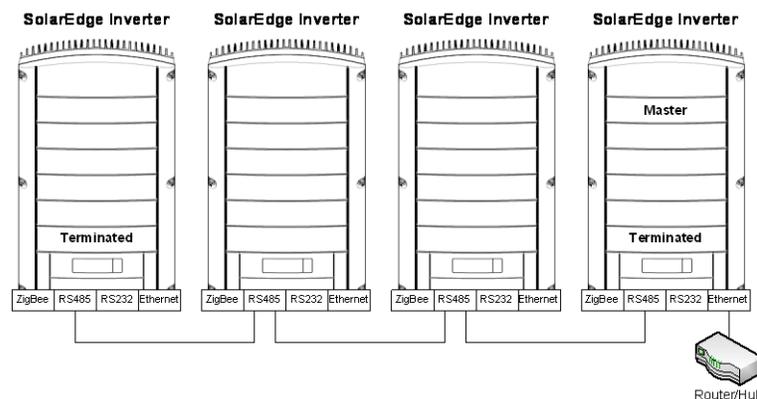


Figure 19: Example of RS485 Bus Connection

Setting the Communication Configuration of the Master

By default, all Inverters are provided as a Slave. You can connect the standard laptop or PC (on which the Configuration Tool is installed) to a Slave Inverter or to the Master Inverter. This enables you to configure the Master Inverter and all the Slave Inverters through a single interface (the Configuration Tool).

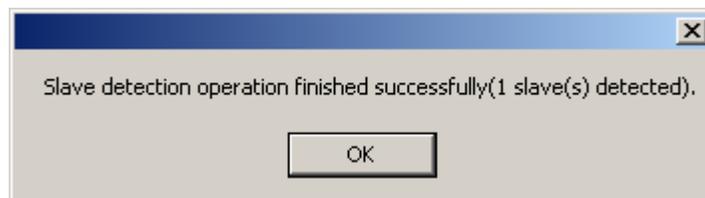
► To set up the Master Inverter:

- 1** In the **Communication Settings** tab, in the **RS 485 Status** field, change the value to **Master**.
- 2** In the **Server Communication Status** section, in the **Via** field, define the communication method used to transfer SolarEdge site information from the Master (and collected Slave site information) to the SolarEdge Monitoring Portal, as described in the *Communication Dataflow* section on page 17.

► To set up the Slave Inverters on the RS485 Bus:

- 1** In the **Inter-Inverter Comm Status** section, in the **Comm Type** field, select the communication status used between the slave Inverters.
- 2** Click the **Detect Slaves** button to detect all the Slave Inverters connected to this Master Inverter and to display them in the Inverter List on the left.

A progress message is displayed during the detection process. Wait until the following message is displayed:



Each Inverter shows its serial number. The Inverter List indicates the Master Inverter by displaying an **(M)** next to its serial number.

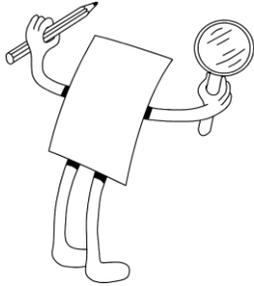
► **To set up each Slave's configuration:**

- 1** Select a Slave Inverter in the Inverter List to display its configuration.
- 2** Set the configuration parameters as necessary. For example, set the Country configuration in the **Regional Settings** tab, as described in the the Regional Settings section on page 29.
- 3** Perform steps **1** and **2** above for each Slave Inverter.

Reviewing Installation Information

The Inverter List lists all the Inverters to which the Configuration Tool is connected, as well as their serial numbers.

Selecting an Inverter in this list displays its information. You can review each Inverter's information in the **Status** tab, as described on page 17, and in the **Optimizers Data** tab, as described on page 30.



Appendix A

Verifying the RS-232 COM Port

Verifying the RS-232 Port

You can check which COM port on your computer is RS-232, so that you connect it to the Inverter.

► **To verify the RS-232 COM port on your computer:**

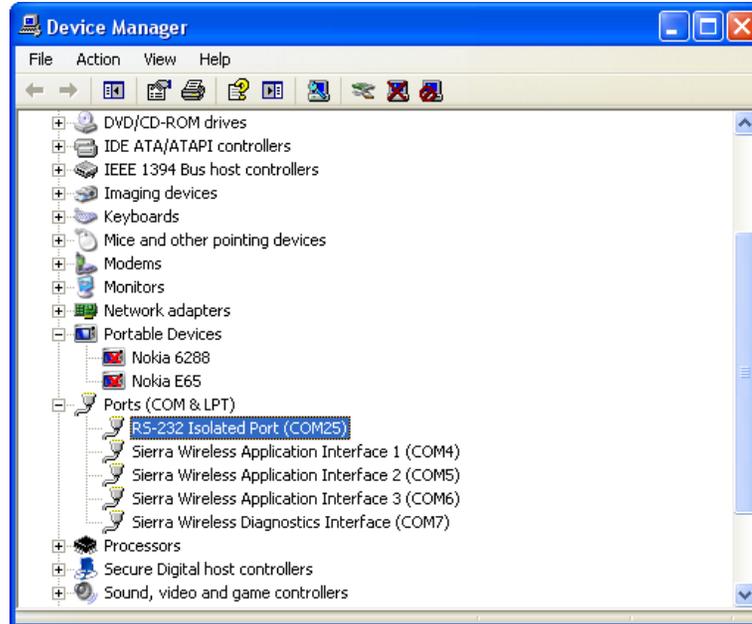
- 1** Right-click the **My Computer** icon on your desktop and select the **Properties** option.

The *System Properties* window is displayed.

- 2** Select the **Hardware** tab.
- 3** Click the **Device Manager** button.

The *Device Manager* window is displayed.

4 Expand the **Ports (COM & LPT)** branch, as shown below:



Take note of the COM port that is displayed in the RS-232 Port branch. For example, the screen above shows the COM25 port. The number of this COM port must be specified by you later when you use the Configuration Tool to connect to the Inverter, as described in the *Defining COM Port to Inverter* section on page 10.

The example above shows the RS-232 Isolated Port branch, as an RS-232/USB adapter is being used to connect the Inverter to the computer. The RS-232/USB adaptor must be installed according to its manufacturer's specifications.

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