# SolarPower

User's Manual for Grid-tie

Management Software for Solar Inverter

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## 1. SolarPower Overview

#### 1.1. Introduction

SolarPower is a solar inverter monitoring software; it can monitor multiple devices via USB and Serial port at the same time. The major functions of SolarPower monitoring software include data log for device, power generation statistics, alarm messages, fault messages, and parameter setting for devices.

#### 1.2. Features

- Automatic and real-time data acquisition of devices and secured data log saving
- Graphic display of device data for quick and easy reading
- Warning notifications or fault alarms via mobile messenger, tray message and e-mail
- Easy diagnosis from event statistics and amount calculation for energy saving
- Supports online upgrade and manually upgrade

## 2. SolarPower Install and Uninstall

#### 2.1. System Requirement

- 512 MB physical memory at least (1 GB is recommended)
- 2GB hard disk space at least
- Administrator authority is required
- More than 32-bit colors and 1280 x 800 or above resolution display is recommended
- An available communication port is needed
- Platforms supported by software are listed below:
  - Windows 2003/XP/Vista/2008/2012 (32bit &x64bit)
  - Windows 7/8 (32bit& x64bit)
  - RedHat Linux 8,9
  - Linux RedHat Enterprise AS3, AS5, AS6(32bit &64bit)
  - Linux SUSE 10 (32bit &64bit)

- Linux Cent OS 5.4 (32bit &64bit)
- Ubuntu 8.x,9.x,10.x (32bit &64bit)
- Linux Fedora 5
- Linux OpenSUSE 11.2 (32bit &64bit)
- Linux Debian 5.x, 6.x (32bit &64bit)
- Mac OS 10.6(x64bit)
- Mac OS 10.7(x64bit)
- Mac OS 10.8(x64bit)

#### 2.2. Software Install

**Step 1** After clicking install, it will display the installation in process. Refer to the diagram 2-1.

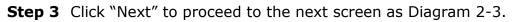
InstallAnywhere				
<b>1</b>	InstallAnywhere is preparing to install			
	49%			
		Cancel		
(C) 1997-2008	Acresso Software Inc. and/or InstallShield Co. Inc.			

Diagram 2-1

**Step 2** Choose wanted language and click "OK" as diagram 2-2.



Diagram 2-2



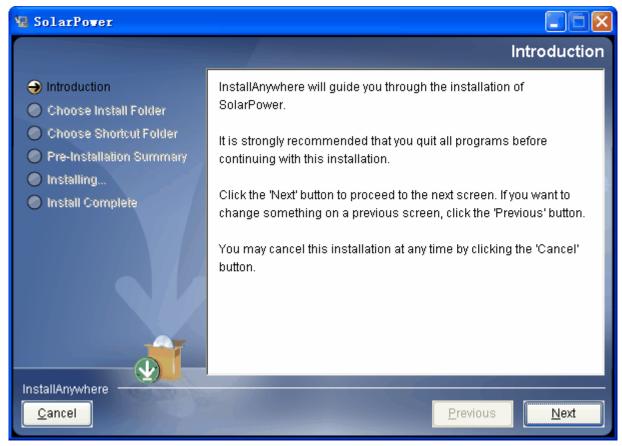


Diagram 2-3

**Step 4** Click "Choose" button to change the default folder. After choosing the installed folder, click "Next" button. Refer to the following diagram 2-4.

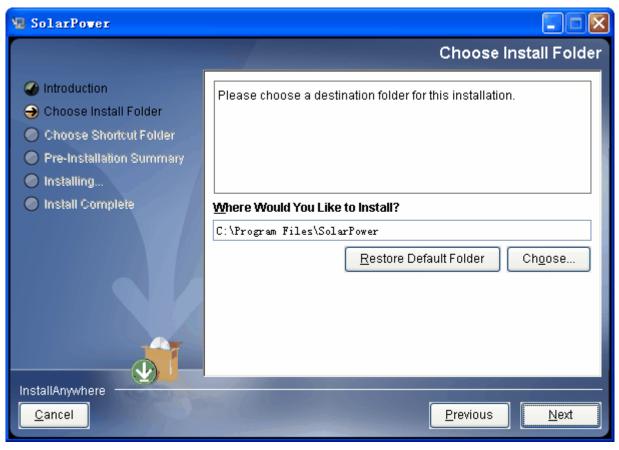


Diagram 2-4

**Step 5** Choose the shortcut folder and click "Next" button. Refer to the following diagram 2-5.

📲 SolarPower			
		Choose Shortcut Folder	
Introduction	Where would you like to create prod	uct icons?	
Choose Install Folder	💿 In a new Program Group:	SolarPower	
<ul> <li>Choose Shortcut Folder</li> <li>Pre-Installation Summary</li> </ul>	🔘 In an <u>e</u> xisting Program Group:	Adobe Photoshop 💉	
Installing	$\bigcirc$ In the <u>S</u> tart Menu		
Install Complete	On the Desktop		
	🔵 In the Quick Launch Bar		
	◯ Othe <u>r</u> :	Choose	
	🔵 Don' <u>t</u> create icons		
	Cre <u>a</u> te Icons for All Vsers		
InstallAnywhere <u>C</u> ancel		Previous Next	

Diagram 2-5

**Step 6** It will display the software summary before installation. Click "Install" button to start the installation and refer to Diagram 2-6.

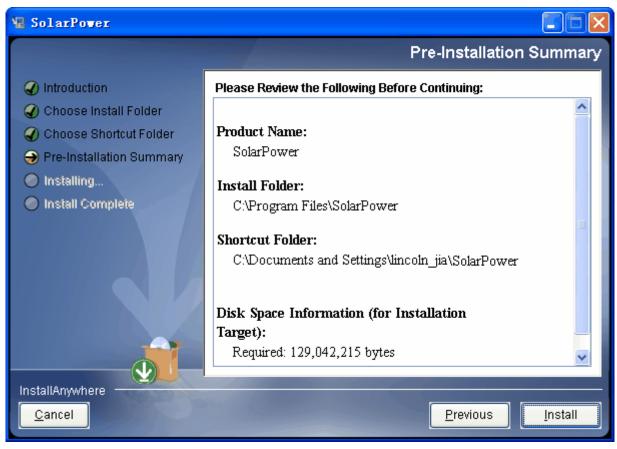
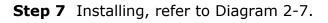
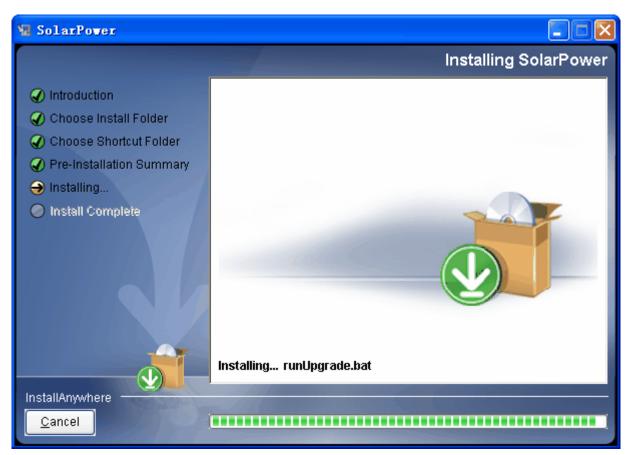


Diagram 2-6





#### Diagram 2-7

**Step 8** Click "Done" button to confirm the installation completely. Refer to Diagram

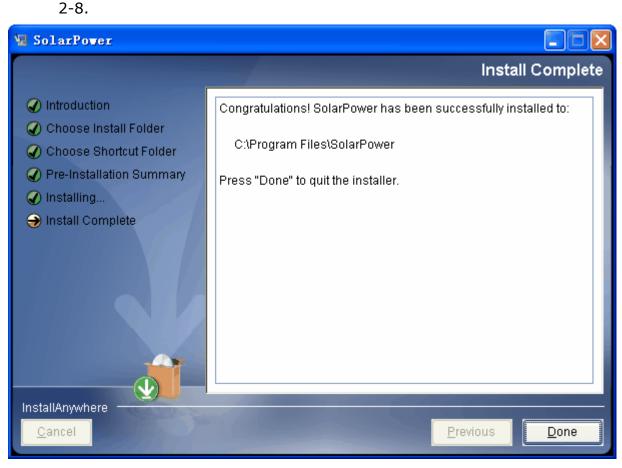


Diagram 2-8

#### 2.3. Software Uninstall

Please choose Start >> All Programs >> SolarPower >> Uninstall. Then follow the on-screen instruction to uninstall the software.

**Note:** Before uninstall software, you must stop all software programs first and then log in as "Administrator"! Otherwise it can't be uninstalled completely.

## 3. Tray Application

#### 3.1. Startup

The Installer will leave a shortcut icon called "SolarPower" on your desktop. Refer to Diagram 3-1. Simply double click the shortcut. Then it will start the software and display a service icon located in tray. It will pop up function menu by clicking right button of the mouse. Refer to below diagram 3-2.



Diagram 3-1

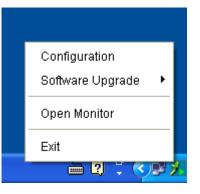


Diagram 3-2

#### 3.2. Configuration

#### 3.2.1. Software Upgrades

Refer to Diagram 3-3 for the detailed configuration for online upgrade:

- Specify the URL for update files: This is the directory to online update software. Please do not change it unless it's instructed by software vendor.
- Save files to: The directory to save files.
- Online auto-update: If selected, it will automatically check if there is any new version launched online every 1 hour.
- If applying online upgrade, please follow below for configuration:
  - 1. Select "Apply the proxy configuration";
  - 2. Enter IP address and port of server;
  - 3. If ID identification is requested, select "Enable authentication" and enter User Name and Password.
- Connection test: Click this button to test if all configurations are set up well.

Configuration		- • 🛛
Specify the URL for update files Save files to	⊱download.com/solarpower/updatewindows.zip C:\Program Files\SolarPower1.02\UpgradeFiles	Browse
Online auto-update		
Apply the proxy configuration	1	
IP Pori Enable authentication User name Password	n	
Connection test		
		Apply Close

Diagram 3-3

#### 3.2.2. Configuration Saved

Click "Apply" button to save all changes in Configuration page. Click "Cancel" to stop the change.

#### 3.3. Software Upgrade

Software upgrades includes online upgrade and manually upgrade:

• Online Upgrade:

Click "Online Upgrade" to search the latest software version. If there is new version, it will automatically download and upgrade. Refer to Diagram 3-4.

	Configuration
Online Upgrade	Software Upgrade 🔹 🕨
Manually Upgrade	Open Monitor
	Exit
	👝 🖻 🕻 🕻 🌾 🕑 🕽

#### Diagram 3-4

• Manually Upgrade:

Users can manually upgrade the software. Follow below steps:

1. Click "Manually Upgrade" from function menu. Refer to Diagram 3-5.

	Configuration
Online Upgrade	Software Upgrade 🔹 🕨
Manually Upgrade	Open Monitor
	Exit

#### Diagram 3-5

2. Click "Browse" to choose file directory. And then click "Upgrade" to upgrade software. Refer to Diagram 3-6.

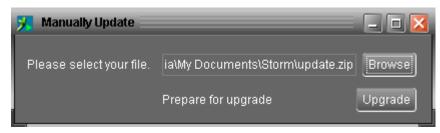


Diagram 3-6

#### 3.4. Icon and Software Status

- Connecting devices: 🗾 and 💹 will rotate as an animation
- When receiving event message with devices connected: will flash for reminder

 When receiving event message without devices connected: will flash for reminder

#### 3.5. Message Board

Users can check message board for event list. Refer to Diagram 3-7:

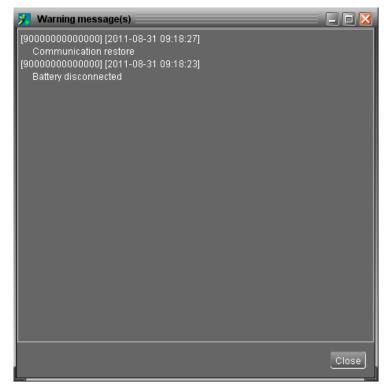


Diagram 3-7

#### 3.6. Exit

Click "Exit" to exist service application.

## 4. SolarPower GUI Interface

SolarPower GUI Interface has five sections as marked in the illustration below:

SolarPower SolarPower configuration Device control	View Language Help A			
	👔 🙀 🧖 Guest Monitor	red device: USB6C36F7E_9000000	0000009 System time: 2012-01-31 10:29:10 Ten	nperature: 31.0 °C 🛛 D
📡 jia-yi-nb			Basic information	
USB6C36F7E_9000000000000		Grid	Grid voltage: 230.4 V	PV1 input voltage: 221.0 V
			Grid frequency: 50.0 Hz	PV2 input voltage: 0.0 V
с		2- 8	Output current 16 A	
	Power information	0.13		Per hour
				Daily
	Output power: 500.0 W		0.099	Monthly
	Today: 0.099 KWh	0.10		Annual
	This month: 4.151 kWh			
		€ 0.07		
	This year: 4.151 KWh	0.08		
		0.05		
		0.04		
			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
			2012-01-31	

#### Diagram 4-1

**A. Function Menu** offers complete tool-set for navigating and setting the GUI.

**B. Shortcut Menu** provides short cuts to more commonly used functions.

C. Solar Inverter Navigation indicates all devices.

**D. Current Monitoring Information** displays User ID, monitored inverter ID, time, and temperature.

#### E. Main Client Area

This function is to display power flow, basic information, and power generation of current monitored solar inverter. Refer to Diagram 4-2.

> SolarPower         SolarPower configuration         Device control         View         Language         Help					
	👔 🔬 🥵 Guest Mon	tored device: USB6C36F7E_900000000	00009 System time: 2012-01-31 10:29:17 Tempera	ture: 31.0 °C	
👂 jia-yi-nb			Basic information		
USB6C36F7E_9000000000000			Grid voltage: 230.1 V	PV1 input voltage: 220.6 V	
			Grid frequency: 50.0 Hz	PV2 input voltage: 0.0 V	
		<b>-</b>	Output current 2.2 A		
	Power information	0.13		Per hour	
	Output power: 507.0 W Today: 0.103 KWh		0.109	Daily Monthly Annuar	
	This month: 4.155 KWh This year: 4.155 KWh	0.08 50.07			
		0.04			
		0.00	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0	



#### 1. Power flow:

Power flow chart includes solar module icon, solar inverter icon, and the utility icon. Solar module icon presents the numbers of MPP defined by solar inverter.

When this device successfully connects to the grid, there will be power flow animation from solar modules to the utility. If there any fault or abnormal situation occurs in solar inverter or the utility, the power flow animation will stop.

When fault occurs in solar inverter, the icon of solar inverter will flash until the fault is solved.

When there abnormal situation occurs in the utility, the utility icon will flash until the fault is solved.

2. Basic Information:

This page is to display the current working data based on different types of monitored inverter. The major displayed information includes grid voltage, grid frequency; PV input voltage and Output current and so on.

3. Power Information:

Power information displays real-time PV input power, power generation on recent date, month and year.

Power generation chart:

- Display hourly power generation on current date when selecting "per hour";
- Display daily power generation on current month when selecting "daily";
- Display monthly power generation on current year when selecting "monthly";
- Display annual power generation since the year to purchase the device when selecting "annual".

**NOTE**: This screen may be different for different types of solar inverters.

#### 4.1. SolarPower Configuration

#### 4.1.1. Basic

Select SolarPower Configuration>>Basic. This page is to set basic display. Refer to Diagram 4-3.

Basic			
Page refresh interval:	2 🌲	Sec.	
Output information update interval:	10 🗘	Sec.	
Device scan interval:	5 🗘	Sec.	
Record interval:	60 🌲	Sec.	
Max. device time difference:	5 🗘	Min	
	Autom:	atic calibrate the system time.	
Date format:	YYYY-MM-D	D 🔽	
Temperature format:	Centigrade		
			Apply Close

#### Diagram 4-3

- Page refresh interval: This interval time will determine how long the web page is refreshed. Setting range is from 5 to 600 seconds. The default setting is 5 seconds.
- 2. Output information update interval: This interval time will determine how long the

power generation data is updated. Setting range is from 10 to 600 seconds. The default setting is 20 seconds.

- Devices scan interval: This interval time will determine how long the device scanning action will be executed. The setting range is from 5 to 600 seconds. The default setting is 5 seconds.
- Record interval: This interval time will determine how long the monitoring data of solar inverters will be recorded into database. The setting range is from 30 to 600 seconds. The difference between each option is 30 seconds. The default setting is 60 seconds.
- 5. Max. device time difference: It will send alarm message when the maximum device time difference is longer than the setting time. The setting range is from 1 to 60 minutes. The default setting is 5 minutes.
- 6. Automatic calibrate system time: If you selected, it will automatic calibrate the system time.
- Date format: This system supports 4 different formats, "YYYY-MM-DD", "YYYY/MM/DD", "MM-DD-YYYY" and "MM/DD/YYYY". The default setting is "YYYY-MM-DD".
- Temperature format: This system supports Centigrade (°C) and Fahrenheit (°F).
   The default setting is Centigrade (°C).

If any change is made, simply click "Apply" button in the end of each item. Then the setting will be saved.

#### 4.1.2. Password

It's password configuration for administrator only. Before operating and configuring the software, please login first and modify the password. The default password is "**administrator**" at first log in. Users can only browse Solar Inverter status and information as Guest status without login as an Administrator. Guest can not control or executive any setting.

**Step 1** Select SolarPower Configuration>>Password. Refer to Diagram 4-4.

Password		X
	Password	
Old password:	•••••	
New password:	•••••	
Confirm password:	••••••	
	Apply Clear	

**Diagram 4-4** 

Step 2 Enter old password, new password, and retype new password in confirm password column to modify password for administrator. (The password should be at least 6 digits) Then click "Apply" button to successfully modify password for administrator.

**NOTE1:** Simply click "Login" button on the top right corner to log in the software. **NOTE2:** If password is forgotten, it's necessary to re-install the software.

#### 4.1.3. Price settings

This function is to calculate the total amount of power generation when entering unit price of electricity. The effective date is to determine when this unit price will be applied and not allowed to repeat.

Select SolarPower Configuration>>Price settings. Refer to Diagram 4-5.

- Add electricity price: select effective data and enter unit price. The click "Add" button.
- Delete electricity price: Select deleted item from the list and click "Delete" button to delete.

Price settings					
Effective date	Price	Input date			
2011-08-02	1.0	2011-08-25 15:22:04			
2011-08-24	2.0	2011-08-25 15:21:58			
Effective date: 2011-08	-31 🛗				
Price: 0.0	Add Delete				
		Close			

Diagram 4-5

#### 4.1.4. SMS Setting

It's for entering SMS receiver list. In the event of an alarm condition occurring, a message about Solar Inverter status will be sent to the specified users via mobile phone. For the event receiving list, please configure in "Event Action" column (refer to section 4.1.6).

**Step 1** Choose SolarPower Configuration >> SMS Setting. Refer to Diagram 4-6.

SMS Setting		×
	Com. port setting	
Com. port:	сомз 🔽	
Baud rate:	1200 🔽	
Receivers list:	12345677788	12345677788 [Add] Delete
Note:	Click "Test" button to checki	f the transmission is successfully
		Apply Close

Diagram 4-6

**Step 2** Select communication port and baud rate.

- Step 3 Enter mobile phone numbers in "Phone no." column and click "Add" button to add phone no. in Receivers List. To delete numbers, simply select phone no. from "Receivers list" and click "Delete".
- Step 4 Click "Apply" button to save all changes. The "Test" button can be used to send tests SMS to confirm the correct operation. If all parameters are set up correctly, system will send a test message to all receivers and pop up a successful message. (Refer to Diagram 4-7) Otherwise, it will pop up a failure dialog to indicate there is an error for parameter setting. (Refer to Diagram 4-8)

SMS Setting	
	Com. port setting
Com. port:	СОМЗ
Baud rate:	9600 🖵
Receivers list:	
Note:	Click "Test" button to checkif the transmission is successfully
	Apply Close

Diagram 4-7

SMS Setting	$\sim$
	Com. port setting
Com. port:	сомз 🔽
Baud rate:	9600 👻
Receivers list:	Test failed
Note:	Click "Test" button to checkif the transmission is successfully Test
	Apply Close

Diagram 4-8

**NOTE:** It's required to plug-in GSM Modem if sending SMS to mobile phone.

### 4.1.5. E-mail

This feature enables the configuration to send alarm mail by SMTP server. For the event receiving list, please configure in "Event Action" column (refer to section 4.1.6). To use this function, the e-mail service must be correct configured on the computer. All values in this function page are default empty. This action can't be executed without the SMTP information, e-mail account, and password. Besides, the sender account should be allowed for SMTP/POP3 forwarding.

E-mail			×
	SMTP server setting		
SMTP server:	smtp.test.com	Port:	25
	Exchange Server Apply		
Send from:	account@test.com		
User name:	account		
	Password Authentication needed		
Password:	•••••		
Receivers list:	test@test.com		
	test@test.com	Add	Delete
Note:	Click "Test" button to checkif the transm		
	Test		
			Apply Close

**Step 1** Select SolarPower Configuration >> E-mail. Refer to Diagram 4-9.

**Diagram 4-9** 

- Step 2 Enter SMTP server, Port, Send from E-mail address, User name and password.Click checkbox of password authentication needed for password verify.
  - **NOTE:** If using Exchange Server for mailbox system, it's required to configure Exchange server domain name in SMTP sever and select "Exchange

server", then click "Apply" button.

- Step 3 Enter correct e-mail accounts in E-mail column. Then click "Add" to add into receivers list. To delete e-mail account, simply select accounts from Receivers list and click "Delete" button.
- Step 4 Click "Apply" to save all changes. The "Test" button can be used to send a test e-mail to all receivers to confirm correct operation. When the test e-mails are successfully sent to specific recipients, it will pop up a successful message on operated PC. Otherwise, it will pop up a failure dialog to indicate there is an error for parameter setting.

#### 4.1.6. Event action

It's to configure response actions for SOLAR INVERTER events. Software provides six response actions after events occur.

**1. Event record:** It will record event to data log in software after events occur. This function is default selected.

2. Warning message(s): It will send event message to tray.

**3. SMS:** It will send the event message to specific mobile phone numbers after events occur.

**4. E-mail:** It will send the event e-mail to assigned e-mail accounts after events occur.

**Step 1** Select SolarPower Configuration >> Event actions. Refer to Diagram 4-10.

**Step 2** Select desired action methods by clicking checkbox.

**Step 3** Click "Apply" button to save all configurations.

Event act	on		_			Þ
ID	Level	Event				
1001	Fault	DC bus voltage exceeds the upper threshold				
1002	Fault	DC bus voltage falls below the lower threshold		Send by:	Event record	
1003	Fault	DC bust voltage soft-start is time-out.			Varning message(s)	
1004	Fault	Inverter soft-start is time-out.				
1005	Fault	An Inverter overcurrent event is detected			E-mail	
1006	Fault	Over temperature fault				
1007	Fault	An relay failure event is detected				
1008	Fault	DC component in the output current exceeds the				
1009	Fault	PV input voltage exceeds the upper threshold		:		
1010	Fault	Auxiliary power failed				
1011	Fault	An PV input overcurrent event is detected			Phone No.	
1012	Fault	Leakage current exceeds the allowable range		1		
1013	Fault	PV insulation resistance is too low				
1014	Fault	Inverter DC component exceeds the allowable ran				
1015	Fault	A difference occurred in the readings from the mai				
1016	Fault	Leakage current CT failed				
1017	Fault	Communication with the main and secondary con				
1018	Fault	An communicating error occurred in the handsha				
1019	Fault	No electrical ground			Apply Clos	
2001	Message	CPU is performing the auto-correction of AD sign				4
2002	E ALLI	In outernal Flack device failed				

Diagram 4-10

**NOTE1:** When editing receiver list in SMS or e-mail columns, it's necessary to refresh the event action page to reload the updated receiver list.

**NOTE2:** Event list may be different based on different types of solar inverters.

#### 4.1.7. Com. port Plug And Play Setting

To real-time monitor solar inverter device, the software will scan each com. port anytime. In this way, it will occupy com.port. This function will release some com.ports which not connects to solar inverter devices. To avoid any improper operation, in-used com.ports will display in disabled grey icons. Users can select "Allow scanned" or "forbid scanned" to re-scan or release com.ports based on their requirements.

**Step 1:** Select SolarPower configuration>> Com.port plug and play setting. Refer to Diagram 4-11.



#### Diagram 4-11

**Step 2:** Click "Refresh" to reload the status of Com.ports.

**Step 3:** Click "Forbid scanned" to stop scanning on this com.port. Click "Allow scanned" to start scanning on this com.port.

#### 4.2. Device control

#### 4.2.1. Parameter Setting

Select Device Control >> Parameter Setting or select shortcut icon Refer to Diagram 4-12.

Some parameters are related to local grid standard and can't be modified without factory password. Please refer to red squares in Diagrams 4-12. Any mis-setting could cause inverter damage or not working. Please check local dealers for the details.

Parameters setting		
Min. grid-connected voltage:	182.2 🗧 V 🛛 Apply	Max. output power: 3,000 🐺 W 🛛 🗛
Max. grid-connected voltage:	263.4 🗧 V 🛛 Apply	The waiting time before grid-connection: 30 🚍 Sec. Apply
Min. grid-connected frequency:	47.5 🗧 Hz Apply	Max. grid-connected average voltage: 259 🗧 V 🛛 Apply
Max. grid-connected frequency:	50.8 🗧 Hz Apply	
Min. PV input voltage:	91 🗧 V 🛛 Apply	Min. MPP voltage: 101 🗧 V Apply
Max. PV input voltage:	529 🗧 V 🛛 Apply	Max. MPP voltage: 499 🍣 V 🔼 Apply
Start LCD screen-saver after: 60	Sec. Apply	Number of MPP trackers in use: 1 🗧 Apply
Mute Buzzer alaı	m: 💿 Enable 🔵 Dis	able Apply Power factor curve: 🔵 Enable 💿 Disable Apply
Mute the buzzer in the Standby mo	de: 💿 Enable 🔵 Dis	able Apply
🥌 Any schedule chang	e will affect the power gei	nerated and shall be conservatively made.
System time: 2013-07-26	<b></b>	
17:30:46	Apply	
		Close



- Step 1 Select the functions by clicking "Enable" or "Disable" button. Or change the numbers by clicking up-down arrows or modify the numbers directly in the number column.
- **Step 2** Click "Apply" button to save the settings. Each function setting is saved by clicking each "Apply" button.
- Buzzer alarm: If it's activated, when fault or warning occurs, it will sound continuously. Vice versa.
- Mute the buzzer in the Standby mode: If it's activated, the buzzer will not sound when the device is in the standby mode. Vice versa.
- Power factor curve: If it's activated, device will use the default power factor curve.
- Min. grid-connected voltage: The acceptable low voltage point for solar inverter to have grid connected.
- Max. grid-connected voltage: The acceptable high voltage point for solar inverter to

have grid connected.

- Min. grid-connected frequency: The acceptable low frequency point for solar inverter to have grid connected.
- Max. grid-connected frequency: The acceptable high frequency point for solar inverter to have grid connected.
- Max. output power: The maximum output power from solar inverter.
- Start LCD screen-saver after: The maximum duration time to activate LCD backlight.
- The waiting time before grid-connection: The duration times to establish grid-connection after all conditions are met.
- Min. PV input voltage: The acceptable low voltage point for PV terminals when grid connection is established successfully.
- Max. PV input voltage: The acceptable high voltage point for PV terminals when grid connection is established successfully.
- Min. MPP voltage: The acceptable low voltage point from solar module.
- Max. MPP voltage: The acceptable high voltage point from solar module.
- Max. grid-connected average voltage: When the average voltage is higher than this setting, it will be identified as the utility is abnormal.
- Number of MPP trackers in use: If use this function, device can not use only connected with PV2,but it is allowed to only connected with PV1 or connected with PV1 and PV2 together.
- Power factor setting: The default power factor curve will invalid.
- Power percent setting: Limit the percent of the current power.
- The min. value of PF curve: Setting the min. value of PF curve.
- System time: It presents the device time zone. Any modification may effect the

calculation of power generation. Please conservatively make any change.

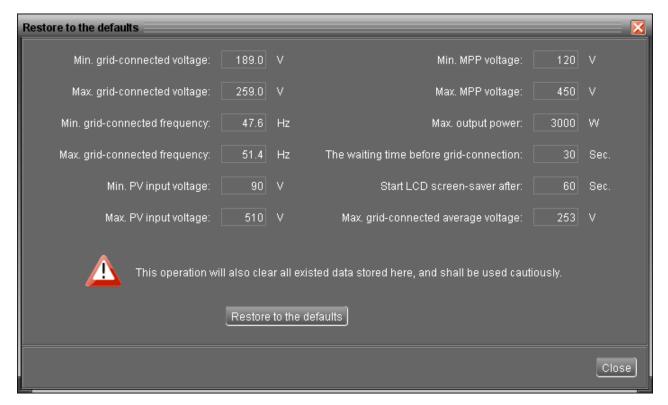
**NOTE1:** This screen may be different for different types of solar inverters.

**NOTE2:** All parameter setting should be made at standby mode.

#### 4.2.2. Restore to the defaults

This function will restore all settings to the default and clear all data in database. Therefore, please conservatively execute this function.

Select Device control >> Restore to the defaults. Refer to Diagram 4-13.



#### Diagram 4-13

**NOTE:** This screen may be different for different types of solar inverters.

#### 4.2.3. Output synchronization data

This function will retrieve saved data in selected solar inverter units to re-save in the database. It can be saved either automatically or manually.

Select Device control >>Output synchronization data. Refer to Diagram 4-14.

Method 1: Automatic output synchronization data (Refer to A section in Diagram 4-14)

Set frequency (daily, weekly, monthly, and time) to automatically sync output data.

Add schedule: Click "Add" button to add schedule into calendar. Every device supports only one sync schedule.

Delete schedule: Select deleted schedule from the list and click "delete" button to remove.

Method 2: Manual output synchronization data. Refer to B section in Diagram 4-14.

There are two patterns to sync data.

Synchronize all data: It will save data of selected devices to the database immediately.

Synchronize data for selected date: It will save data of selected devices to the database during indicating period.

Output synch	ronization da	ta				
Period NO.	Date	Time	Synchronization du	. Device	Automatic output synchronization d	
daily		17:34	1	90000000000000		
					Device:	900000000
					Synchronization period:	Daily
						O Weekly
						O Monthly
					Time:	17:34
					Synchronization duration:	1 🔽 Day(s)
						Add] Delete
					Manual output synchronization data	
					Device:	900000000 💌
					Synchronization pattern:	Synchronize all data
						<ul> <li>Synchronize data for selected date</li> </ul>
					Time period:	2011-09-06  🛗 2011-09-06
						Start
						Close

Diagram 4-14

**NOTE:** No matter it's automatic or manual sync, this action only sync data which is not updated to database before. If users want to update output data during specific time period, then please delete the data record of this period from power generation log.

#### 4.2.4. Real-time control

Select Device control >> Real-time control. Refer to Diagram 4-15.

Grid self-test: Click "Start" button to initial self-test. If monitored inverter is equipped with self-test function, it will take about 30 seconds to have an outcome message. If monitored inverter is not equipped with this function, then it will pop up a message to inform users.



Diagram 4-15

#### 4.3. View

#### 4.3.1. Power generation log data

This function is to browse, calculate, or delete power generation data in the datasheets.

#### • Datasheets

Select View >>Power generation log data>>Datasheets or click shortcut icon Refer to Diagram 4-16.

Select browsed device and period. Then, click "Browse" to get result.

- > "Delete": Select specific data and click "Delete" button to delete the record.
- > "Export": Click "Export" button to save listed table to local PC in .PDF file.

atasheets Charts													
Device: 90000000000 💌 Period NO.: Year 💌 : 2,012 - 2,012 - Browse													
Year 2012	Period 2012-01-012012-12-31	Output power 4.052	Price 2	Amount 8.1	Total output 4.052	Total amount 8.1							

#### Diagram 4-16

#### • Charts

Select View >> Power generation log data >> Charts. Refer to Diagram 4-17.

 Power generation data log
 Image: Charts

 Device:
 0000000000000 Period NO:
 Vear
 2,012 - 2,012 Ferwere

 5,25
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Select browsed device and period. Click "Browse" to get result.

Diagram 4-17

#### 4.3.2. Data

This function is to browse the working data of solar inverter saved in datasheets.

• Datasheets

Select View >>Data>>Datasheets or click shortcut icon Refer to Diagram 4-18.

Select browsed device and period to display in the screen. Click "Browse" to get result.

- > "**Print**": Print the listed data table.
- > "**Delete**": Select specific data and click "Delete" button to delete the record.
- > **"Delete all":** Click "Delete All" button to delete all records on the listed table.
- > "Export": Click "Export" button to save listed table to local PC in .PDF file.

Datasheets Charts													
Device: 90000000	Device: 900000000009 🔽 Display item: 🔽 Device mode 🔍 Time period: 2012-01-31 🚔 - 2012-01-31 🚔 Browsel												
Device mode	Time	Grid voltage	Output power	Output current	Grid frequency	PV1 input voltage	PV2 input voltage	Temperature					
Grid	2012-01-31 10:31:07		510.0	2.2	49.9	219.0	0.0	31.0					
Grid	2012-01-31 10:30:10		497.0	2.2	49.9	219.0	0.0	31.0					
Grid	2012-01-31 10:29:09	230.4	500.0	1.6	50.0	221.0	0.0	31.0					
Total: 3 row(s)							Export Delete	e Delete all Close					



#### • Charts

Select View >>Data>>Charts. Refer to Diagram 4-19.

Select browsed device and period and then click "Browse" to get the result.

Data													×
Datasheets Charts													
Device: 90000000000009	Period I	NO.: Year	•	2,012	Browse	)							
Grid voltage	300												
Output power	280												
Output current	260												
Grid frequency PV1 input voltage	240												
PV2 input voltage	220												
Temperature	200												
	180												
	100												
	> 140												
	120												
	100												
	80												
	60												
	40												
	20												
	0	02	03	04	05	06	07	08	09	10	11	12	
		02							00			12	
													Close

Diagram 4-19

#### 4.3.3. Fault data log

Select View >>Fault data log or click shortcut icon Refer to Diagram 4-20.

Fault data log is to record last data before solar inverter occurs fault.

- > "Delete": Select specific data and click "Delete" button to delete the record.
- > "Delete all": Click "Delete All" button to delete all records on the listed table.
- > "Export": Click "Export" button to save listed table to local PC in .PDF file.

ault data log												
Device: 900000000009 🔽 Time period: 2012-01-01 🗮 2012-01-31 🗮 🗄 Browse												
Input date 2012-01-19 14:41:30	Fault message Over temperature fault	Grid voltage 0.0	Output current 0.0	Grid frequency 0.0	PV1 input voltage 77.5	PV1 input current 2.6	PV2 input voltage 76.5	PV2 input current 2.6	Temperature 123.0			
								Export Delete	Delete all Close			

Diagram 4-20

#### 4.3.4. Event log

Select View >>Event log or click shortcut icon **I** to enter event log.



It's to record history events. Users can browse event list according to date. It lists all detailed information and statistics for history events. Refer to Diagram 4-21.

- "Delete": Select specific data and click "Delete" button to delete the record.  $\geq$
- "Delete all": Click "Delete All" button to delete all records on the listed table.  $\geq$
- "Export": Click "Export" button to save listed table to local PC in .PDF file.  $\geq$

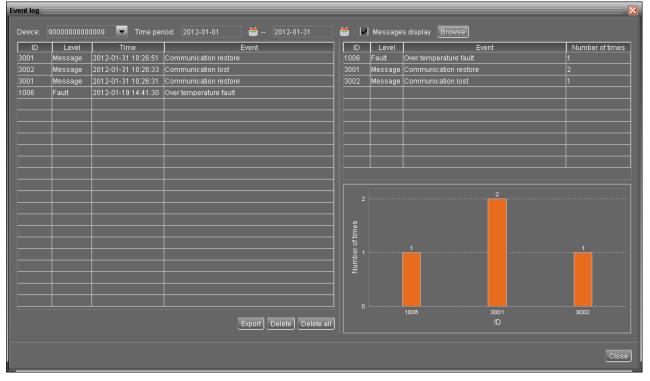


Diagram 4-21

#### 4.3.5. Monitored Device Information

Select View >> Monitored Device Information or click shortcut icon . This screen will display basic information of monitored device, including Product information,

- Rated information, and Purchasing information. Refer to Diagram 4-22.
  - Product information include: Model type, Topology, Main CPU processor version, Secondary CPU processor version, Output phase, Nominal input voltage, Nominal output voltage, and so on.
  - Rated information include: Nominal output power, Nominal grid-connected

voltage, Nominal grid-connected frequency, Nominal grid-connected current, Maximum input current for each PV, Number of maximum-power-tracing units, and so on.

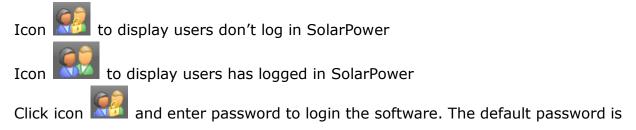
Purchasing information include: Purchasing date, Warranty for device, Device
 P/N, and so on.

Monitored device information				_	X
Product Information					
Model type	Grid tie		Output ph	ase: 1/1	
Topology	: transformer	less	Nominal input volt	age: 360.0	V
Main CPU processor version	00001.00		Nominal output volt	age: 230.0	v
Secondary CPU processor version	00000.20				
Rated information					
Nominal output power	3000.0	W	Nominal grid-connected current:	13.0	A
Nominal grid-connected voltage	230.0	v	Max. input current for each PV:	10.0	A
Nominal grid-connected frequency	50.0	Hz	Number of maxpower-tracing units:	2	
Purchasing information					
Purchasing date: 2012-01-31	<b>—</b>				
Warranty for device: 1 🗧	Year				
Device P/N					
Apply					
					Close

Diagram 4-22

**NOTE:** This screen may be different for different types of solar inverters.

#### 4.4. Log in and Log out



🔀 SolarPower olarPower configu 6 Basic information ----Password: Login Clear 424.0 W 000 Diagram 4-23 to log out. Refer to Diagram 4-24. Click icon 🕺 SolarPower er config 7 1 Basic information 👌 jia-yi-nb USB6C36F7E\_9000000000000 === You are going to logout, are you sure? Yes() No(N) 0.175 Output power: 513.0 W

"administrator". Refer to Diagram 4-23.

Diagram 4-24

#### 4.5. Language

Currently, software offers 13 languages for selection:

- ✓ Chinese (Simplified)
- ✓ Chinese (Traditional)
- ✓ English
- √ German
- √ Italian
- ✓ Polish
- ✓ Portuguese
- ✓ Russian
- ✓ Spanish
- √ Ukrainian
- √ French
- √ Turkish
- √ Japanese

When first using the software, it will search proper language to display according to OS language.

#### 4.6. Help

- **About**: Click "Help" menu and select "About" item. It represents the copyright information about software
- **Help**: Click "Help" menu and select "Online help" item. It will open the help manual. Before operating software, please read manual carefully.