SolarPower

User Manual For Grid-tie Inverter

Management Software for Solar Inverter

Table of Contents

1.	Sola	arPov	wer Overview
1	1.1.	Intr	oduction1
1	1.2.	Feat	tures1
2.	Sol	٦٢Dox	wer Install and Uninstall
4	2.1.	Syst	tem Requirement1
2	2.2.	Soft	tware Install
2	2.3.	Soft	tware Uninstall
3.	Trav	νΔnr	plication
-			
	3.1.		tup3
3	3.2.	Icor	n and Software Status
	3.3.	Mes	sage Board
	3.4.	Exit	5
4.	Col	- rDou	wer GUI Interface
2	4.1.		arPower Configuration
	4.1		Basic
	4.1		Password
	4.1	-	9 SMC Cotting
	4.1. 4.1.		SMS Setting
	4.1	-	E-mail
	4.1	-	Com. port Plug And Play Setting
2	1.2.		rice control
	4.2		Parameter Setting
	4.2		Restore to the defaults
	4.2	-	Output synchronization data
	4.2		Real-time control
2			N
	4.3		Power generation log data21
	4.3		Data
	4.3		Fault data log
	4.3		Event log
	4.3	.5.	Monitored Device Information
2	4.4.	Log	in and Log out27
2	4.5.	Lan	guage29
2	1.6.	Help	٥29

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

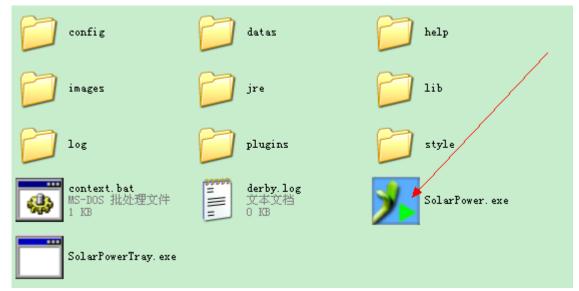
2.1. System Requirement

- 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

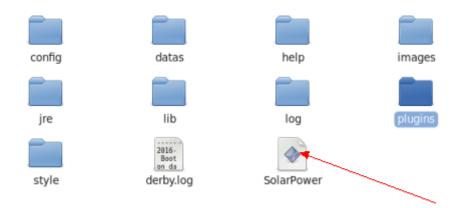
SolarPower is a portable application. It's no need to install this software. You may simply double click "SolarPower.exe" to automatically run this software after extracting files. Windows Version:



Macosx Version:



Linux Version:



NOTE: If it's not running after double clicking SolarPower in Linux OS, please check if there is authority to run SolarPower with terminal.

8	root@centos:~/Desktop/SolarPower	-		×
File	Edit View Search Terminal Help			
bash	t@centos SolarPower]# '/root/Desktop/SolarPower/SolarPower' : /root/Desktop/SolarPower/SolarPower: Permission denied t@centos SolarPower]#		_	^

If it shows "Permission denied" in dialog, please send command for elevation of privilege to run SolarPower.

5	root@centos:~/Desktop/SolarPower				
File I	Edit View Search Terminal Help				
bash: [root@	<pre>centos SolarPower]# '/root/Desktop/SolarPower/SolarPower' /root/Desktop/SolarPower/SolarPower: Permission denied centos SolarPower]# chmod 774 '/root/Desktop/SolarPower/SolarPower' centos SolarPower]#</pre>			^	

2.3. Software Uninstall

This software becomes portable software. It's easy to delete all files for software uninstallation.

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

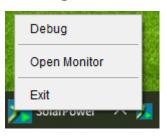


Diagram 3-2

3.2. 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: M will flash for reminder

3.3. Message Board

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



Diagram 3-3

3.4. Exit

Click "Exit" to exist service application.

4. SolarPower GUI Interface

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



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	SolarPower SolarPower configuration Device control View Language Help Guest Monitored device: USB6C36F7E_9000000000009 System time: 2012-01-31 10:29.17 Temperature: 31.0 °C							
Image: second		Grid	Basic information Grid voltage: 230.1 V Grid frequency: 50.0 Hz Output current: 2.2 A	PV1 input voltage: 220.6 V PV2 input voltage: 0.0 V				
	Power Information Output power: 507.0 W Today: 0.103 KWh This month: 4.155 KWh This year: 4.155 KWh	0.13 0.12 0.11 0.10 0.00 5 0.07 0.00 0	0.103 0.00 0.00 0.00 0.00 0.00 0.00 0.00					

Diagram 4-2

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



Basic			
Page refresh interval:	2 🗘	Sec.	
Output information update interval:	10 🌲	Sec.	
Device scan interval:	5 🗘	Sec.	
Record interval:	60 🌲	Sec.	
Max. allowable time difference:	5 💲	Min	
	📕 Autom	atic calibrate the system time.	
Date format:	YYYY-MM-D	D 💌	
Temperature format:	Centigrade	-	
Font size	ų.		
		20 30 40	
		Sample Text	
			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.

- 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.
- 4. 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:	•••••	
Commin passworu.		
	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.

- 1. Add electricity price: select effective data and enter unit price. The click "Add" button.
- 2. 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				



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		X
	Com. port setting	
Com. port:	сомз 🔽	
Baud rate:	1200	
Receivers list:	12345677788	12345677788 Add Delete
Note:	Click "Test" button to check	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:	ARUU 👗
Receivers list:	Test was successful
Note:	Click "Test" button to checkif the transmission is successfully
	Apply Close

Diagram 4-7

SMS Setting
Com. port setting
Com. port: COM3 📃
Baud rate: 9600
Receivers list: Test failed Delete
Note: Click "Test" button to checkif the transmission is successfully
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.

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

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	ission is	s successfully
	Test		
			Apply Close

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 acti	on		_		
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 Close
2001	Message	CPU is performing the auto-correction of AD sign			
2002	Foult	An external Fleek device foiled			

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

Parameters setting				
Buzzer alarm: (🖲 Enable 🔘	Disable Apply	Power factor curve: 💿 En	able 🔿 Disable 🗛pply
Mute the buzzer in the Standby mode: (🖲 Enable 🔘	Disable Apply		
Min. grid-connected voltage	: 184 🛟	V Apply	Max. PV input voltage:	510 🌩 V 🛛 Apply
Max. grid-connected voltage	: 264.5 🛟	V Apply	Min. MPP voltage:	100 🗘 V 🛛 Apply
Min. grid-connected frequency	: 47.5 🌲	Hz Apply	Max. MPP voltage:	500 📮 V 🛛 Apply
Max. grid-connected frequency	: 51.5 🔶	Hz Apply	Number of MPP trackers in use:	1 🗧 Apply
Max. output power	: 3,000 👙	VV Apply	Power factor setting:	100 🗧 % 🛛 Apply
The waiting time before grid-connection	: 60 🛟	Sec. Apply	Power percent setting:	100 ≑ % Apply
Min. PV input voltage	: 90 🛟	V Apply	The min value of PF curve:	-90 ≑ % Apply
Start LCD screen-saver after	: 60 🔻	Sec. Apply		
Any schedule change will	affect the powe	er generated and s	shall be conservatively made.	
System time: 2012-07-04	<u></u>			
10:07:24	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: This function is not allowed device to be connected with PV2 only. It's only applied for either connection with PV1 only or connection 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.

Restore to the defaults										
Min. grid-connected voltage:	189.0 V	Min. MPP voltage:	120	v						
Max. grid-connected voltage:	259.0 V	Max. MPP voltage:	450	v						
Min. grid-connected frequency:	47.6 Hz	Max. output power:	3000	W						
Max. grid-connected frequency:	51.4 Hz	The waiting time before grid-connection:	30	Sec.						
Min. PV input voltage:	90 V	Start LCD screen-saver after:	60	Sec.						
Max. PV input voltage:	510 V	Max. grid-connected average voltage:	253	v						
This operation w	This operation will also clear all existed data stored here, and shall be used cautiously.									
				Close						

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 synchro	onization da	ta					
Period NO.	Date	Time	Synchronization du	. Device		FAutomatic output synchronization c	lata
daily		17:34	1	90000000000000			
						Device:	900000000 💌
						Synchronization period:	Daily
							O Weekly
							O Monthly
						Time:	17:34
					1.	Synchronization duration:	1 🔽 Day(s)
							Add Delete
					ľ	⊢Manual output synchronization dat	
						-manual output synchronization dat	a
						Device:	90000000 🔽
						Synchronization pattern:	 Synchronize all data
							 Synchronize data for selected date
						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.

Real-time control		
Grid self-test:	Start	
Connection to the grid:	💿 Enable 🔘 Disable 🛛 Apply	
		Close



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

Diagram 4-16.

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

- "Export excel": When selected and click "Export", it will save listed table to local PC in .xls file.
- > "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.

ice: 90000000	000009 🔻 Period NO.: Ye	ar 🔽 .	2,012 🗘 2	012	Browse	Expo	rt excel	
Year	Period 100.	Output power	Price	.012	Amount		Total output	Total amount
2012	2012-01-012012-12-31	4.052	11100	2	Amount	8.1	4.052	8.1

Diagram 4-16

• Charts

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

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

Power generation data log Datasheets Charts					X
Device: 9000000000009	Period NO.: Year	▼ : 2,012 🖨	2,012 - Brow	se	
5.25 5.00 4.75 4.50 4.25 4.00			4.052		
3.75 3.50 3.25 3.00					
2.50 2.25 2.00					
0.25			*****		
					Close

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

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

- "Export excel": When selected and click "Export", it will save listed table to local PC in .xls file.
- > "**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.

Data										
Datasheets Cha	ts									
	Device: 900000000000 🔽 Display item: 🔽 Device mode 🔍 Time period: 2012-01-31 🚔 2012-01-31 🚔 🛅 📴 Errowsei 📘 Export excel									
Device mode	Time	Grid voltage	Output power	Output current	Grid frequency		PV2 input voltage			
Grid Grid	2012-01-31 10:31:07 2012-01-31 10:30:10			2.2	49.9 49.9	219.0 219.0	0.0	31.0 31.0		
Grid	2012-01-31 10:29:09		500.0	1.6	50.0	219.0	0.0	31.0		
	2012 01 01 10.20.00	200.4				221.0				
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													X
	Period N	O.: Year	-	2,012	Browse)							
Grid voltage	300 T												
Output power	280												
Output current	260												
Grid frequency PV1 input voltage	240												
PV2 input voltage	220												
Temperature	200												
	180												
	160												
	> 140												
	120												
	100												
	80												
	60												
	40												
	20												
	0												
	01	02	03	04	05	06	07	08	09	10	11	12	
													Close

Diagram 4-19

4.3.3. Fault data log

Select View >>Fault data log or click shortcut icon

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

- "Export excel": When selected and click "Export", it will save listed table to local PC in .xls file.
- > "**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.

Input date	Fault message	Grid voltage	Output current	Grid frequency	PV1 input current	PV2 input voltage	PV2 input current	Temperature
	Over temperature fault	0.0		0.0		76.5		123.0



4.3.4. Event log

Select View >>Event log or click shortcut icon 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.

- "Export excel": When selected and click "Export", it will save listed table to local PC in .xls file.
- > **"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.

ent log				_						
Device:	90000000	000000 🔻 Time p	period: 2014-11-04 🛗 2014-11-04		=	Messag	es display 🔲 Ex	port excel Browse)	
ID	Level	Time	Event		ID	Level		Event		Number of times
2016	Warning	2014-11-04 15:16:27	Battery disconnected		1008	Fault	DC component ir	n the output current ex	ceeds the	1
2010	Warning	2014-11-04 15:16:27	Power grid frequency falls below the lower thresho	ld	2003	Warning	Input PV is found	lost		1
2008	Warning	2014-11-04 15:16:27	Power grid voltage falls below the lower threshold		2008	Warning	Power grid voltag	e falls below the lowe	er threshold	1
2003	Warning	2014-11-04 15:16:27	Input PV is found lost		2010	Warning	Power grid freque	ency falls below the lo	wer thres	1
3001	Message	2014-11-04 15:16:18	Communication restore		2016	Warning	Battery disconne	cted		1
1008	Fault	2014-11-04 15:15:38	DC component in the output current exceeds the u		3001	Messa	Communication	restore		1
										-
										1 1
					Number of times					
					ll se					
					11 m					
					z					
				-						
			· · · · · · · · · · · · · · · · · · ·				008 2003	2008 201	10 20	
			Export Delete Dele	te all				ID		
										Close
										Ciuse

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	_	_		_				
Product Information								
Model type:	Grid tie		Output phase: 1/1					
Topology:	transforme	rless	Nominal input vol	v				
Main CPU processor version:	00001.00		Nominal output vol	tage: 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								
Warranty for device: 1 🌲	Year							
Device P/N								
Apply								
					Close			



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

4.4. Log in and Log out

Icon is to display users don't log in SolarPower Icon is to display users has logged in SolarPower Click icon is and enter password to login the software. The default password is "administrator".

Refer to Diagram 4-23.

SolarPower SolarPower configuration Device control				
↓ ↓	Guest Mo	nitored device: USB6C36F7E_90000000000 Grid	009 System time: 2012-01-31 10:34:56 Tempera Basic information Grid voltage: 231.0 V Grid frequency: 49.9 Hz	PV1 Input voltage: 221.0 V PV2 Input voltage: 0.0 V
	<i></i>	pin Please login first	Output current <u>1.9</u> A	
	Power information Output power: 424.0 W	Password:		Per hour Daily Monmy
	Today: 0.143 KWh This month: 4.195 KWh This year: 4.195 KWh	0.125 ∰ 0.100 0.075	0.143	
		0.050 0.025 0.000 0 0 0 0 0 0 0 1 2 3 4 5	0 0 0 0 0 0 0 0 0 0 0 0 0 8 7 8 9 10 11 12 13 14 15 18 17 2012-01-31	

Diagram 4-23

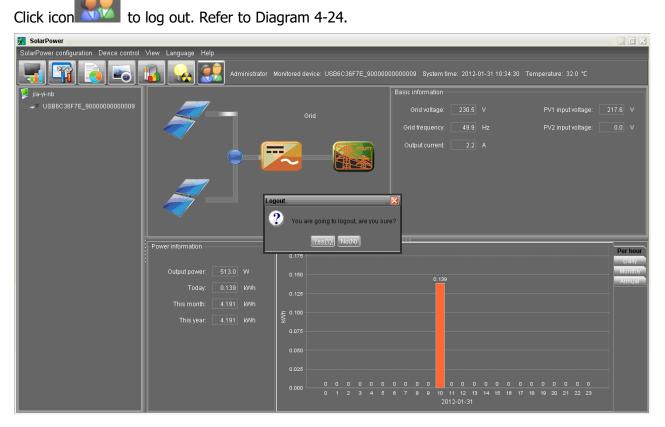


Diagram 4-24

4.5. Language

Currently, software offers 13 languages for selection:

 \checkmark Chinese (Simplified)

√ Chinese (Traditional)

 \checkmark English

 \checkmark German

 \checkmark Italian

✓ Polish

✓ Portuguese

✓ Russian

 \checkmark Spanish

✓ Ukrainian

✓ French

 \checkmark 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.