# SolarPower

User Manual

Suitable for:

- 5KW/ 4KW Grid-tie inverter with energy storage
- 5KW/ 4KW Off-Grid inverter

Management Software for Solar Inverter

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# 1. SolarPower Overview

# 1.1 Introduction

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

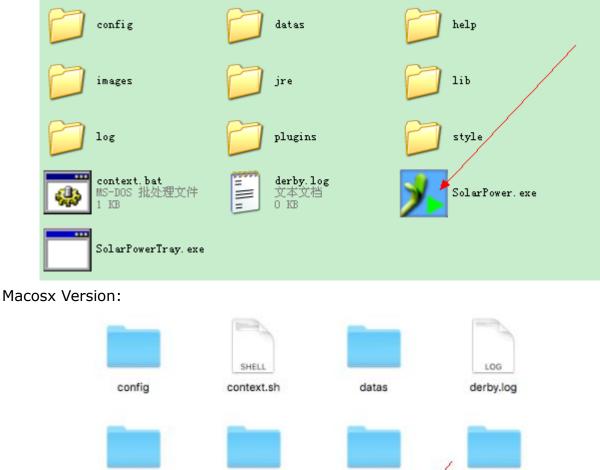
# 2.1 System Requirement

- 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 2003/2008/XP/Vista/7/8/10 (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.x(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:



log

help

images

pre



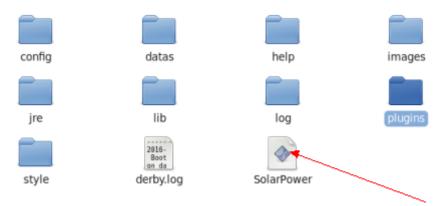
jre

SolarPou

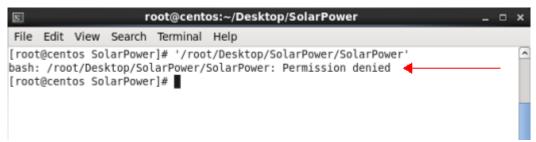
lib

style

#### 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.



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

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

## 2.3 Software Uninstall

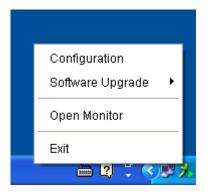
This software becomes portable software. It's easy to delete all files for software uninstallation.

# 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 3-2

## 3.2 Configuration

#### 3.2.1 Configuration

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

- Specify the URL to 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 steps for configuration:
  - 1. Select "Apply the proxy configuration".
  - 2. Enter IP address and port of server.
  - 3. If ID identification is requested, click "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	examples/SolarPowerCS/updateSolarPower.zip C:\Program Files\SolarPower1.00\UpgradeFiles	Browse
Online auto-update		
Apply the proxy configuration		
IP		
Pori		
Enable authentication		
User name		
Password		
Connection test		
		(pply) Cancel

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 upgrade 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.

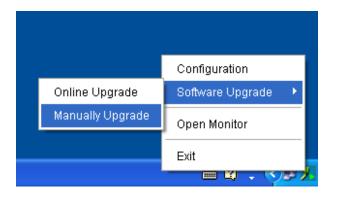
	Configuration
Online Upgrade	Software Upgrade 🔹 🕨
Manually Upgrade	Open Monitor
	Exit
	- B I I (987

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.



#### Diagram 3-5

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

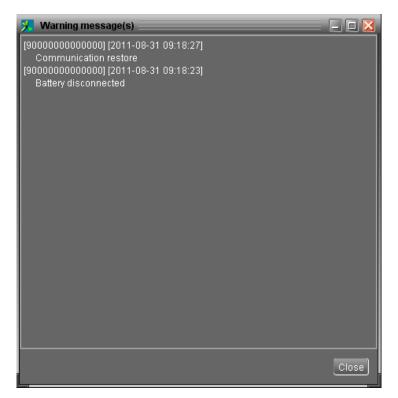
🕺 Manually Update 📃		🛛
Please select your file.	ia\My Documents\Storm\update.zip	Browse
	Prepare for upgrade	Upgrade

#### Diagram 3-6

## 3.4 Icon and Software Status

- When connecting devices,  $\mathbb{M}$  and  $\mathbb{M}$  will rotate as an animation.
- When receiving warning message with devices connected, 🔀 will flash for reminder.
- When receiving warning message without devices connected, 💹 will flash for reminder.

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



# Diagram 3-7

# 3.5 Open Monitor

Click "Open Monitor" to enter main screen of this software.

# 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 🛕						
	🚺 🖡 🏑 🧖 Guest Monitorec	I device: COM6_96131511100054	System time: 2015-11-20 1	0:41:42 Tempe	rature: 45.0 °C 🛛 D		
💆 localhost							
СОМ6_96131511100054		Inverter	PV1 input voltage:	394.4 V	Battery voltage:	51.4 V	
с			PV2 input voltage:		Battery capacity:		
			Grid voltage:		AC output active power:		
	SOLAR PV ARRAY	LOAD			AC output apparent power:	5181 VA	
					Inner temperature:		
			Charging current				
		E					•
	Power information			_			
						Per hour Daily	
	PV1 input power: 2678 W	3.00					
						Monthly	
	PV2 input power: 0 W		2.54			Monthly Annual	
			2.54				
	PV2 input power: 0 W Today: 2:54 KWh		254				
	PV2 input power: 0 W Today: 2.54 KWh This month: 0.0 KWh		254				
	PV2 input power: 0 W Today: 2:54 KWh	2.50 2.25 2.00 \$ 1.75	2.54				
	PV2 input power: 0 W Today: 2.54 KWh This month: 0.0 KWh		254				
	PV2 input power: 0 W Today: 2.54 KWh This month: 0.0 KWh		254				=
	PV2 input power: 0 W Today: 2.54 KWh This month: 0.0 KWh	2.50 2.23 2.00 55 1.50 1.50 1.25 0.55 0.50 0.50 0.50 0.50 0.00 0 0 0 0	0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0		

Diagram 4-1

- **A. Function Menu** offers complete tool-set for navigating and setting the GUI.
- **B. Shortcut Menu** provides short cuts to access more commonly used functions.
- C. Device Navigation indicates all detected devices.

**D. Current Monitoring Information** displays User ID, monitored device 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	Monitored device: COM6_9613151110005	4 System time: 2015-11-2010:46:33 Ter	nperature: 45.0 °C	
厚 localhost			-Basic information		
		Inverter	PV1 input voltage: 394.4 V	Battery voltage:	51.4 V
			PV2 input voltage: 0.0 V	Battery capacity:	
			Grid voltage: 0.0 V	AC output active power:	
	SOLAR PV ARRAY	Invorter.		z AC output apparent power:	
				6 Inner temperature:	
			Charging current: 1.4 A	. Max. component temperature:	
			I	ш	
	Power information	3.25			Per hour
					Daily Monthly
		W 2.50	2.54		Annual
		kWh \$ 1.75 1.50			
			0 0 0 0 0 0 0 0 0 0 0 0 4 5 6 7 8 9 10 11 12 13 14	0 0 0 0 0 0 0 0 0 0 15 16 17 18 19 20 21 22 23	

Diagram 4-2

#### 1. Power flow:

It will display real-time power flow with running color bar. Power flow chart includes solar module icon, solar inverter icon, battery icon\*, load icon\* and the utility icon. Solar module icon presents the numbers of MPP tracker defined by solar inverter.

NOTE: Battery and load icon will not present only when this device is set as grid-tie mode.

There are three operation modes can be set up via this software. Below is operation power flow description. Operation mode setting can be configured in MyPower Management. Please refer to 4.2.1 section.

## • Grid-tie Operation:

When this device is successfully connected to the grid, there will be power flow animation from solar module icon to the utility icon. SolarPower will report and have animation during normal operation. If any fault or abnormal occurs, Power flow animation will stop and represent icon will flash.

#### • Grid-tie with backup Operation:

There are three power sources in On-grid with backup mode, PV power, battery power and utility power.

**Charging mode:** Only PV power exists to charge battery. There will be power flow animation from solar modules to the battery

**Line mode:** Utility power exists or is available during this mode. All possible power flows are described as below.

- 1. If PV power and battery energy are not available, utility will provide power to loads directly. There will be power flow animation from solar module icon to the load icon.
- 2. If only utility power exists, it will charge battery and provide power to the load. There will be power flow animation from utility icon to battery and load icons.
- 3. If only PV power exists without battery connected, it will provide power the load. If there is remaining power, it will feed-in to the grid. There will be power flow animation from PV module icon to load icon and to the utility icon.
- 4. If PV power is sufficient but battery power is insufficient, PV power will charge the battery, provide power to the load and feed in to the grid. There will be power flow animation from PV module icon to battery, to load icon and to utility icon.
- 5. If PV power is weak, utility exists and battery power is insufficient, PV power and utility power will charge battery at the same time. Besides, utility power will provide power to the load. There will be power flow animation from PV module and utility icons to battery icon and another power flow from utility icon to load icon.

**Inverter mode:** Utility power is not available or not connected during this mode. All possible power flows are described as below.

- 1. If PV power is not available, battery power will provide power to the load. There will be power flow animation from battery icon to load icon.
- 2. If PV power is available and sufficient, PV power will charge battery and provide power to load. There will be power flow animation from PV module icon to battery and load icons.
- 3. If PV power is not sufficient, PV power and battery power will provide power to the load at the same time. There will be power flow from PV module and battery icons to load icon.

**Fault mode:** When a fault occurs in solar inverter, the icon of solar inverter will flash until the fault is solved.

#### • Off-Grid Operation:

There is no power feed-in to the grid. Utility (or generator) becomes one of power sources.

**Bypass with PV charging mode:** If PV power is sufficient, it will charge the battery and AC power will provide power to load. One power flow animation is from PV module icon to battery icon and another one is from utility icon to load icon.

**Bypass with AC charging mode:** If PV power is insufficient, AC power will charge the battery and provide power to load. There will power flow animation

from utility icon to battery and load icons.

**Inverter mode:** Utility power is not available or not connected. All possible power flows are described as below.

- 1. If PV power is not available, battery power will provide power to the load. There will be power flow animation from battery icon to load icon.
- 2. If PV power is available and sufficient, PV power will charge battery and provide power to load. There will be power flow animation from PV module icon to battery and load icons.
- 3. If PV power is not sufficient, PV power and battery power will provide power to the load at the same time. There will be power flow from PV module and battery icons to load icon.

**Standby mode:** Only PV power is available. There is no load connection and no utility and battery power available during this mode.

**Standby with PV charging mode:** PV power will charge the battery. There will be power flow animation from PV module icon to battery icon.

**Standby with AC charging mode:** AC power will charge the battery. There will be power flow animation from utility icon to battery icon.

**Fault mode:** When a fault occurs in solar inverter, the icon of solar inverter will flash until the fault is solved.

#### 2. Basic Information:

This page is to display current working data for monitored inverter. The major displayed information includes grid voltage, grid frequency, PV input voltage, output current and so on.

#### 3. Power Information:

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

Power generation bar chart:

- Display hourly power generation on current date when selecting "per hour".
- Display daily power generation in current month when selecting "daily".
- Display monthly power generation in current year when selecting "monthly".
- Display annual power generation so far this year when selecting "annual".

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

# 4.1 SolarPower Configuration

# 4.1.1 Basic

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

🧏 Basic			🔀
Page refresh interval:	2 鏱	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	-	
			Apply Close



- 1. 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.
- 3. Devices scan interval: This interval time will determine how long 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. allowable time difference: It will send alarm message when the time difference between device and computer is longer than setting time. The setting range is from 1 to 60 minutes. The default setting is 5 minutes.
- 6. Auto time calibration: If selected, it will automatically calibrate the system time.
- 7. 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".

8. 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 setting 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. As a "guest" status, user only can browse solar inverter status and information without controlling or modifying any settings.

Password		×
	Password	
Old password:	•••••	
New password:	**********	
Confirm password:	•••••	
	analy older	
	Apply Clear	

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

#### Diagram 4-4

**Step 2** Enter old password, new password, and re-type new password 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 SMS Setting

It's for entering SMS receiver list. In the event of an alarm 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 4.1.5).

**Step 1** Choose SolarPower Configuration >> SMS Setting. Refer to Diagram 4-5.

SMS Setting			X
	Com. port setting		
Com. port:	сомз 🔽		
Baud rate:	1200 🗸		
Receivers list:	12345677788	12345677788 Add Delete	
Note:	Click "Test" button to checkif Test	the transmission is successfully	
		Apply Clos	•

Diagram 4-5

- **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 a test 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 4-6. Otherwise, it will pop up a failure dialog to indicate there is an error for parameter setting. Refer to Diagram 4-7.

SMS Setting
Com. port setting
Com. port: COM3 📃
Baud rate: 9600 -
Receivers list: Test was successful OK
Note: Click "Test" button to checkif the transmission is successfully
Apply Close

Diagram 4-6

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

#### Diagram 4-7

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

# 4.1.4 E-mail

It is allowed to send an alarm mail by SMTP server. For the event receiving list, please configure it in "Event Action" column (refer to section 4.1.5).

To use this function, e-mail service must be configured correctly. All values in this function page are default empty. This action can't be executed without 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	ission is	s successfully	
	Test			
			Apply Clos	e

**Step 1** Select SolarPower Configuration >> E-mail. Refer to Diagram 4-8.

#### Diagram 4-8

**Step 2** Enter SMTP server, Port, Sender 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 click checkbox of "Exchange server". Then, click "Apply" button.

Step 3 Enter correct e-mail accounts in E-mail column. Then, click "Add" button to add into receivers list. To delete e-mail account, simply select accounts from Receivers list and click "Delete" button. Step 4 Click "Apply" button 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.

## 4.1.5 Event action

It's to configure response actions for events occurring in solar inverter. There are four response actions provided after events occur.

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

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

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

- 4. E-mail: It will send event e-mail to assigned e-mail accounts after events occur.
- **Step 1** Select SolarPower Configuration >> Event actions. Refer to Diagram 4-9.

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

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

Event act	ion				
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.		Warning message(s)	
1004	Fault	Inverter soft-start is time-out.			
1005	Fault	An Inverter overcurrent event is detected		E-mail	
1006	Fault	Over temperature alarm			
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	[]		
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	
1020	Fault	Discharge circuit fault			
4.0.04	Foult	Coff start in botton, discharge fails			

## Diagram 4-9

**NOTE1:** When any modification is applied in receiver list of 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.

# 4.1.6 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 are not connected to solar inverters. To avoid any improper operation, in-used com. ports will display in disabled grey texts. Users can select "Allow scanned" to re-scan or "No scanning" to release com. ports based on their requirements.

**Step 1:** Select SolarPower configuration>> Com.port plug and play setting. Refer to Diagram 4-10.



#### Diagram 4-10

**Step 2:** Click "Refresh" to reload the statuses of all com. ports.

**Step 3:** Click "No scanning" to stop scanning on this com. port. Click "Allow scanned" to start scanning on this com. port.

## 4.2 Device control

#### 4.2.1 MyPower Management

It is to set up inverter operation mode and personalized interface. Select Device Control>>MyPower Management. Refer to below diagram.

MyPower Management		
Mode		
Grid-tie with backup Grid-Tie Off-Gri	d 🛛 Standard: VDE0126 🔽 Nominal output voltage: 230 🔽 Nom	inal output frequency: 50 🔽
Setting		
PV energy supply priority setting		
Grid-Tie with Backup (I)		
Priority: 1st: Battery -> 2nd: Load -> 3rd: 0	<b>3</b> rid	
Configuration details		
Charging source:	PV and Grid	Allow to charge battery
	PV charging first. If PV power is not sufficient, PV and grid will charge battery together	Allow AC to charge battery
Load supply source (PV is available):	PV-Grid-Battery	Allow to feed-in to the Grid
	Priority :1st: PV -> 2nd: Grid -> 3rd: Battery	Allow battery to discharge when PV is available
	Grid-Battery	Allow battery to discharge when PV is unavailable
Load supply source (PV is unavailable):		Allow battery to feed-in to the Grid when PV is available
	Priority :1st: Grid -> 2nd: Battery	Allow battery to feed-in to the Grid when PV is unavailable
🥅 When battery voltage <	48 V, the AC starts charging	
Allow AC-charging duration :	00:00 📮 🔶 00:00 🚽 00:00 - 00:00 Means AC charger operates all-time	
AC Output ON/Off Timer:	00:00 00:00 00:00 00:00 / 00:00 means AC Output timer function disable	
		Apply Close

#### 4.2.1.1 Mode

There are three operation modes: Grid-tie with backup, Grid-Tie and Off-Grid.

- Grid-tie with backup: PV power can feed-in back to grid, provide power to the load and charge battery. There are four options available to select in this mode: Grid-tie with backup I, II, III, IV. In this mode, users can configure PV power supply priority, charging source priority and load supply source priority. However, when Grid-tie with backup IV option is selected in PV energy supply priority, the inverter is only operated between two working logics based on defined peak time and off-peak time of electricity. Only peak time and off-peak time of electricity are able to set up for optimized electricity usage.
- Grid-Tie: PV power only can feed-in back to grid.
- Off-Grid: PV power only provides power to the load and charge battery.

MyPower Management						X
Mode Grid-tie with backup Grid-Tie Off-Off	d Standard:	/DE0126 🔽 N	ominal output voltage:	230 🔻 Nom	ninal output frequency. 50 🔽	
Setting						
PV energy supply priority setting						
Grid-Tie with Backup (I)						
Priority: 1 st: Battery -> 2nd: Load -> 3rd: C	3rid					
Configuration details	Lo	gin				
Charging source:	PV and Grid	Pleas	se enter factory passwo	ord 🚪	🖌 Allow to charge battery	
	PV charging first. If P	Password:		er	✓ Allow AC to charge battery	
Load supply source (PV is available):	PV-Grid-Battery	Log	in Clear		Allow to feed-in to the Grid	
	Priority:1st: PV -> 2n				Allow battery to discharge when PV is available Allow battery to discharge when PV is unavailable	
Load supply source (PV is unavailable):	Grid-Battery			•	Allow battery to feed-in to the Grid when PV is available	
	Priority :1st: Grid -> 2nd:	Battery			Allow battery to feed-in to the Grid when PV is unavailable	
🥅 When battery voltage <	48 V, the A	C starts charging				
Allow AC-charging duration :	00:00 🗧 ~ 🛛 0	4:00 🗧 00:00 - 0	10:00 Means AC charge	r operates all-time		
AC Output ON/Off Timer:	00:00 🗧 / 🛛 04	00:00 🗧 00:00 / 00	:00 means AC Output ti	imer function disable		
					Apply Close	

Standard: It will list local grid standard. It's requested to have factory password to make any modifications. Please check local dealer only when this standard change is requested.

**CAUTION:** Wrong setting could cause the unit damage or not working.

Nominal Output Voltage: There are 5 options for high voltage system to select, 240V, 230V, 220V, 208V and 202V.

Nominal Output Frequency: There are 2 options to select, 50HZ or 60HZ.

#### 4.2.1.2 Setting

#### Grid-tie with backup

• Grid-tie with backup (I) :

🧏 MyPower Management		×
Mode Grid-tie with backup Grid-Tie Off-Grid	a Standard: VDE0126 🗸 Nominal output voltage: 230 🔽 Nomi	nal output frequency: 50
Setting		
PV energy supply priority setting		
Grid-Tie with Backup (I)	-	
Priority: 1st: Battery -> 2nd: Load -> 3rd: G		
Configuration details		
Charging source:	PV and Grid	Allow to charge battery
	PV charging first. If PV power is not sufficient, PV and grid will charge battery together	✓ Allow AC to charge battery
Load supply source (PV is available):	PV-Grid-Battery	Allow to feed-in to the Grid
	Priority :1 st: PV -> 2nd: Grid -> 3rd: Battery	Allow battery to discharge when PV is available
Load supply source (PV is unavailable):	Grid-Battery	Allow battery to discharge when PV is unavailable Allow battery to feed-in to the Grid when PV is available
	Priority :1 st: Grid -> 2nd: Battery	Allow battery to feed in to the Orid when PV is available
When battery voltage <	48 V, the AC starts charging	
Allow AC-charging duration :	00:00 ~ 04:00 00:00 - 00:00 Means AC charger operates all-time	
AC Output ON/Off Timer:	00:00 🗧 / 00:00 🗧 00:00 / 00:00 means AC Output timer function disable	
		Apply Close

PV energy supply priority setting: 1<sup>st</sup> Battery, 2<sup>nd</sup> Load and 3<sup>rd</sup> Grid.

PV power will charge battery first, then provide power to the load. If there is any remaining power left, it will feed-in to the grid.

#### Battery charging source:

- 1. PV and Grid: It's allowed to charge battery from PV power first. If it's not sufficient, grid will charge battery.
- 2. PV only: It is only allow PV power to charge battery.
- 3. None: It is not allowed to charge battery no matter it's from PV power or grid.

#### Load supply source:

When PV power is available: 1<sup>st</sup> PV, 2<sup>nd</sup> Grid, 3<sup>rd</sup> Battery

If battery is not fully charged, PV power will charge battery first. And remaining PV power will provide power to the load. If it's not sufficient, grid will provide power to the load. If grid is not available at the same time, battery power will back up.

When PV power is not available:

- 1. 1<sup>st</sup> Grid, 2<sup>nd</sup> Battery: Grid will provide power to the load at first. If grid is not available, battery power will provide power backup.
- 2. 1<sup>st</sup> Battery, 2<sup>nd</sup> Grid: Battery power will provide power to the load at first. If battery power is running out, grid will back up the load.

**NOTE:** This option will become ineffective during AC charging time and the priority will automatically become 1<sup>st</sup> Grid and 2<sup>nd</sup> Battery order. Otherwise, it will cause battery damage.

MyPower Management		
Mode		
Grid-tie with backup Grid-Tie Off-Gri	Standard: VDE0126 🔽 Nominal output voltage: 230 🔽 Nomi	nal output frequency: 50 🔽
Setting		
PV energy supply priority setting		
Grid-Tie with Backup (II)	×	
Priority: 1st: Load -> 2nd: Battery -> 3rd: 0		
Configuration details		
Charging source:	PV and Grid	Allow to charge battery
Charging source.	PV charging first. If PV power is not sufficient, PV and grid will charge battery together	Allow AC to charge battery
		Allow to feed-in to the Grid
Load supply source (PV is available):	PV-Batteny-Grid Priority: 1 st. PV -> 2nd: Battery -> 3rd: Grid	Allow battery to discharge when PV is available
		Allow battery to discharge when PV is unavailable
Load supply source (PV is unavailable):	Battery-Grid	Allow battery to feed-in to the Grid when PV is available
	Priority: 1st: Battery -> 2nd: Grid	Allow battery to feed-in to the Grid when PV is unavailable
	This option is ineffective during of AC charging	
🥅 When battery voltage <	48 V, the AC starts charging	
Allow AC-charging duration :	00:00 📮 👻 04:00 📮 00:00 - 00:00 Means AC charger operates all-time	
AC Output ON/Off Timer:	00:00 J 00:00 00:00 / 00:00 means AC Output timer function disable	
		Apply Close

• Grid-tie with backup (II) :

PV energy supply priority setting: 1<sup>st</sup> Load, 2<sup>nd</sup> Battery and 3<sup>rd</sup> Grid.

PV power will provide power to the load first. Then, it will charge battery. If there is any remaining power left, it will feed-in to the grid.

#### Battery charging source:

- 1. PV and Grid: It's allowed to charge battery from PV power first. If it's not sufficient, grid will charge battery.
- 2. PV only: It is only allow PV power to charge battery.
- 3. None: It is not allowed to charge battery no matter it's PV power or grid.

#### Load supply source:

When PV power is available:

1. 1<sup>st</sup> PV, 2<sup>nd</sup> Battery, 3<sup>rd</sup> Grid

PV power will provide power to the load first. If it's not sufficient, battery power

will provide power to the load. When battery power is running out or not available, grid will back up the load.

2. 1<sup>st</sup> PV, 2<sup>nd</sup> Grid, 3<sup>rd</sup> Battery

PV power will provide power to the load first. If it's not sufficient, grid will provide power to the load. If grid is not available at the same time, battery power will back up.

When PV power is not available:

- 1. 1<sup>st</sup> Grid, 2<sup>nd</sup> Battery: Grid will provide power to the load at first. If grid is not available, battery power will provide power backup.
- 2. 1<sup>st</sup> Battery, 2<sup>nd</sup> Grid: Battery power will provide power to the load at first. If battery power is running out, grid will back up the load

**NOTE:** This option will become ineffective during AC charging time and the priority will automatically become 1<sup>st</sup> Grid and 2<sup>nd</sup> Battery order. Otherwise, it will cause battery damage.

MyPower Management		
Mode		
Grid-tie with backup Grid-Tie Off-Gri	d Standard: VDE0126 🔽 Nominal output voltage: 230 🔽 Nomi	inal output frequency: 50 🔽
Grid-tie with backup Grid-Tie Off-Gri	n Standard. VDE0120 Nominal output voitage. 230 Nom	inal output requency. 50
Setting		
PV energy supply priority setting		
Grid-Tie with Backup (III)	<b>•</b>	
Priority: 1st: Load -> 2nd: Grid -> 3rd: Batt		
Configuration details		
Charging source:	PV and Grid	✓ Allow to charge battery
	PV charging first. If PV power is not sufficient, PV and grid will charge battery together	Allow AC to charge battery
Load supply source (PV is available):	PV-Battery-Grid	Allow to feed-in to the Grid
	Priority: 1st: PV-> 2nd: Battery -> 3rd: Grid	Allow battery to discharge when PV is available
Load supply source (PV is unavailable):	Battery-Grid	Allow battery to discharge when PV is unavailable
	Priority: 1 st: Battery -> 2nd: Grid	Allow battery to feed-in to the Grid when PV is available     Allow battery to feed-in to the Grid when PV is unavailable
	This option is ineffective during of AC charging	
🥅 When battery voltage <	48 - V, the AC starts charging	
Allow AC-charging duration :	00:00 📮 🗠 04:00 📮 00:00 - 00:00 Means AC charger operates all-time	
AC Output ON/Off Timer:	00:00 🗧 / 00:00 🗧 00:00 / 00:00 means AC Output timer function disable	
		Apply Close

• Grid-tie with backup (III):

PV energy supply priority setting: 1<sup>st</sup> Load, 2<sup>nd</sup> Grid and 3<sup>rd</sup> Battery

PV power will provide power to the load first. If there is more PV power available, it will feed-in to the grid. If feed-in power reaches max. feed-in power setting, the remaining power will charge battery.

**NOTE:** The max. feed-in grid power setting is available in parameter setting. Please refer to section 4-2-2.

#### Battery charging source:

- 1. PV and Grid: It's allowed to charge battery from PV power first. If it's not sufficient, grid will charge battery.
- 2. PV only: It is only allow PV power to charge battery.
- 3. None: It is not allowed to charge battery no matter it's PV power or grid.

#### Load supply source:

When PV power is available:

1. 1<sup>st</sup> PV, 2<sup>nd</sup> Battery, 3<sup>rd</sup> Grid

PV power will provide power to the load first. If it's not sufficient, battery power will provide power to the load. When battery power is running out or not available, grid will back up the load.

2. 1<sup>st</sup> PV, 2<sup>nd</sup> Grid, 3<sup>rd</sup> Battery

PV power will provide power to the load first. If it's not sufficient, grid will provide power to the load. If grid is not available at the same time, battery power will back up.

When PV power is not available:

- 1. 1<sup>st</sup> Grid, 2<sup>nd</sup> Battery: Grid will provide power to the load at first. If grid is not available, battery power will provide power backup.
- 2. 1<sup>st</sup> Battery, 2<sup>nd</sup> Grid: Battery power will provide power to the load at first. If battery power is running out, grid will back up the load.

**NOTE:** This option will become ineffective during AC charging time and the priority will automatically become 1<sup>st</sup> Grid and 2<sup>nd</sup> Battery order. Otherwise, it will cause battery damage.

• Grid-tie with backup (IV): Users are only allowed to set up peak time and off-peak electricity demand.

MyPower Management		
Mode Grid-tie with backup Grid-Tie Off-Gri	a Standard: VDE0126 🔽 Nominal output voltage: 230 🔽 Nomi	nal output frequency: 50
Setting		
PV energy supply priority setting		
Grid-Tie with Backup(IV)	-	
Peak time:< Priority: 1st: Load -> 2nd: E	Battery -> 3rd: Grid>	
Off-Peak time: <priority: -="" 1="" battery="" st:=""> 2n</priority:>	d: Load -> 3rd: Grid>	
Configuration details		
Charging source:	Peak/Off-Peak Grid Electricity Demand	Allow to charge battery
	Peak time:≺PV power charge battery>	✓ Allow AC to charge battery
	Off-Peak time: <pv and="" battery="" charge="" grid=""></pv>	🗹 Allow to feed-in to the Grid
Load supply source (PV is available):	Peak/Off-Peak Grid Electricity Demand	Allow battery to discharge when PV is available
	Peak time: <priority: -="" 1="" pv="" st.=""> 2nd: Battery -&gt; 3rd: Grid&gt;</priority:>	Allow battery to discharge when PV is unavailable
	Off-Peak time: <priority: -="" 1st:="" pv=""> 2nd: Grid -&gt; 3rd: Battery&gt;</priority:>	Allow battery to feed-in to the Grid when PV is available
Load supply source (PV is unavailable):	Peak/Off-Peak Grid Electricity Demand	Allow battery to feed-in to the Grid when PV is unavailable
	Peak time: <priority: -="" 1="" battery="" st.=""> 2nd: Grid&gt;</priority:>	
	Off-Peak time: <grid only=""></grid>	
🥅 When battery voltage <	49 V, the AC starts charging	
Off-Peak duration:	00:00 🗧 🗢 04:00 🗧 00:00 - 00:00 Means AC charger operates all-time	
AC Output ON/Off Timer:	00:00 / 00:00 00:00 / 00:00 means AC Output timer function disable	
		Apply Close

#### Working logic under peak time:

PV energy supply priority: 1<sup>st</sup> Load, 2<sup>nd</sup> Battery and 3<sup>rd</sup> Grid

PV power will provide power to the load first. If PV power is sufficient, it will charge battery next. If there is remaining PV power left, it will feed-in to the grid. Feed-in to the grid is default disabled.

Battery charging source: PV only

Only after PV power fully supports the load, the remaining PV power is allowed to charge battery during peak time.

```
Load supply source: 1<sup>st</sup> PV, 2<sup>nd</sup> Battery, 3<sup>rd</sup> Grid
```

PV power will provide power to the load first. If PV power is not sufficient, battery power will back up the load. If battery power is not available, grid will provide the load. When PV power is not available, battery power will supply the load first. If battery power is running out, grid will back up the load.

#### Working logic under off-peak time:

PV energy supply priority: 1<sup>st</sup> Battery, 2<sup>nd</sup> Load and 3<sup>rd</sup> Grid

PV power will charge battery first. If PV power is sufficient, it will provide power to the loads. The remaining PV power will feed to the grid.

**NOTE:** The max. feed-in grid power setting is available in parameter setting. Please refer to section 4-2-2.

Battery charging source: PV and grid charge battery

PV power will charge battery first during off-peak time. If it's not sufficient, grid will charge battery.

Load supply source: 1<sup>st</sup> PV, 2<sup>nd</sup> Grid, 3<sup>rd</sup> Battery

When battery is fully charged, remaining PV power will provide power to the load first. If PV power is not sufficient, grid will back up the load. If grid power is not available, battery power will provide power to the load.

#### **Grid-Tie**

Under this operation mode, PV power only feeds-in to the grid. No priority setting is available.

7 MyPower Management	×
Mode	1
Grid-tie with backup) Grid-Tie Off-Grid Standard: VDE0126 💌 Nominal output voltage: 230 💌 Nomi	nal output frequency: 50 🔽
Setting	
PV energy supply priority setting	
Grid Only	
Configuration details	
Charging source: N/A	Allow to charge battery
Load supply source (PV is available): N/A	Allow AC to charge battery
	Allow battery to discharge when PV is available
Load supply source (PV is unavailable): N/A	Allow battery to discharge when PV is unavailable
	Allow battery to feed-in to the Grid when PV is available
When battery voltage < 48 V, the AC starts charging	Allow battery to feed-in to the Grid when PV is unavailable
Allow AC-charging duration : 00:00 ~ 00:00 00:00 00:00 00:00 Allow AC charger operates all-time	
AC Output ON/Off Timer: 00:00 / 00:00 00:00 means AC Output timer function disable	
	Apply Close

#### Off-Grid

• Off-Grid (I):

7 MyPower Management		
Mode		
Grid-tie with backup Grid-Tie Off-Gri	3) Standard: VDE0126 🔻 Nominal output voltage: 230 🖵 Nomin	nal output frequency: 50 🔻
Setting		
PV energy supply priority setting		
Off-Grid (I)	•	
Priority: 1st: Load -> 2nd: Battery		
Grid relay is connected in inverter mode		
Configuration details		
Charging source:	PV or Grid	✓ Allow to charge battery
	PV will charge battery first. If PV power is loss, grid will charge battery	✓ Allow AC to charge battery
Load supply source (PV is available):	PV-Battery-Grid	Allow to feed-in to the Grid
	Priority: 1st: PV -> 2nd: Battery -> 3rd: Grid	Allow battery to discharge when PV is available
Load supply source (PV is unavailable):	Battery-Grid	Allow battery to discharge when PV is unavailable           Allow battery to feed-in to the Grid when PV is available         Image: Comparison of the Grid when PV is available
	Priority: 1st: Battery -> 2nd: Grid	Allow battery to feed-in to the Grid when PV is unavailable
	This option is ineffective during of AC charging	
🕅 When battery voltage <	48 V, the AC starts charging	
Allow AC-charging duration :	00:00 🚽 🔷 04:00 🚽 00:00 - 00:00 Means AC charger operates all-time	
AC Output ON/Off Timer:	00:00 🗧 / 00:00 📮 00:00 / 00:00 means AC Output timer function disable	
		Apply Close

PV energy supply priority setting: 1<sup>st</sup> Load, 2<sup>nd</sup> Battery

PV power will provide power to the load first and then charge battery. Feed-in to the grid is not allowed under this mode. At the same time, the grid relay is connected in Inverter mode. That means the transfer time from inverter mode to battery mode will be less than 15ms. Besides, it will avoid overload fault because grid can supply load when connected load is over nominal output power.

#### Battery charging source:

- 1. PV or Grid: If there is remaining PV power after supporting the loads, it will charge battery first. Only until PV power is not available, grid will charge battery.
- 2. PV only: It is only allow PV power to charge battery.
- 3. None: It is not allowed to charge battery no matter it's PV power or grid.

Load supply source:

When PV power is available:

1. 1<sup>st</sup> PV, 2<sup>nd</sup> Battery, 3<sup>rd</sup> Grid

PV power will provide power to the load first. If it's not sufficient, battery power will provide power to the load. When battery power is running out or not available, grid will back up the load.

2. 1<sup>st</sup> PV, 2<sup>nd</sup> Grid, 3<sup>rd</sup> Battery

PV power will provide power to the load first. If it's not sufficient, grid will provide power to the load. If grid is not available at the same time, battery power will back up.

When PV power is not available:

- 1. 1<sup>st</sup> Grid, 2<sup>nd</sup> Battery: Grid will provide power to the load at first. If grid is not available, battery power will provide power backup.
- 2. 1<sup>st</sup> Battery, 2<sup>nd</sup> Grid: Battery power will provide power to the load at first. If battery power is running out, grid will back up the load.

**NOTE:** This option will become ineffective during AC charging time and the priority will automatically become 1<sup>st</sup> Grid and 2<sup>nd</sup> Battery order. Otherwise, it will cause battery damage.

• Off-Grid (II)

Grid-tie with backup Grid-Tie Off-Gri	d Standard: VDE0126 💌 Nominal output voltage: 230 💌 Nomir	nal output frequency: 50 🔽
tting		
PV energy supply priority setting		
Off-Grid (II)	•	
Priority: 1st: Battery -> 2nd: Load		
Grid relay is connected in inverter mode		
Configuration details		
		_
Charging source:	PV or Grid	Allow to charge battery
	PV will charge battery first. If PV power is loss, grid will charge battery	Allow AC to charge battery
Load supply source (PV is available):	PV-Grid-Battery	Allow to feed-in to the Grid
	Priority:1st: PV -> 2nd: Grid -> 3rd: Battery	Allow battery to discharge when PV is available
Load supply source (PV is unavailable):	Grid-Battery	Allow battery to discharge when PV is unavailable
Luau supply source (FV is unavaliable).	Priority :1st: Grid -> 2nd: Battery	Allow battery to feed-in to the Grid when PV is availabl
	Thomy ist. One -> 2nd. Dattery	Allow battery to feed-in to the Grid when PV is unavaila
🥅 When battery voltage <	48 V, the AC starts charging	
Allow AC-charging duration :	00:00 🗧 👻 04:00 🗧 00:00 - 00:00 Means AC charger operates all-time	
AC Output ON/Off Timer:	00:00 🗧 / 00:00 🗧 00:00 / 00:00 means AC Output timer function disable	
		Apply CI

PV energy supply priority setting: 1<sup>st</sup> Battery, 2<sup>nd</sup> Load

PV power will charge battery first. After battery is fully charged, if there is remaining PV power left, it will provide power to the load. Feed-in to the grid is not allowed under this mode. At the same time, the grid relay is connected in Inverter mode. That means the transfer time from inverter mode to battery mode will be less than 15ms. Besides, it will avoid overload fault because grid can supply load when connected load is over nominal output power.

#### Battery charging source:

- 1. PV or Grid: If there is remaining PV power after supporting the loads, it will charge battery first. Only until PV power is not available, grid will charge battery.
- 2. PV only: It is only allow PV power to charge battery.
- 3. None: It is not allowed to charge battery no matter it's PV power or grid.

**NOTE:** It's allowed to set up AC charging duration.

Load supply source:

When PV power is available: 1<sup>st</sup> PV, 2<sup>nd</sup> Grid, 3<sup>rd</sup> Battery

PV power will provide power to the load first. If it's not sufficient, grid will provide power to the load. If grid is not available at the same time, battery power will back up.

When PV power is not available:

- 1. 1<sup>st</sup> Grid, 2<sup>nd</sup> Battery: Grid will provide power to the load at first. If grid is not available, battery power will provide power backup.
- 2. 1<sup>st</sup> Battery, 2<sup>nd</sup> Grid: Battery power will provide power to the load at first. If battery power is running out, grid will back up the load.

**NOTE:** This option will become ineffective during AC charging time and the priority will automatically become  $1^{st}$  Grid and  $2^{nd}$  Battery order. Otherwise, it will cause battery damage.

• Off-Grid (III)

MyPower Management		
Mode		
Grid-tie with backup Grid-Tie Off-Gri	d) Standard: VDE0126 💌 Nominal output voltage: 230 🔽 Nomi	nal output frequency: 50 💌
Setting		
PV energy supply priority setting		
Off-Grid (III)	•	
Priority: 1 st: Load -> 2nd: Battery		
Grid relay is disconnected in inverter mo	ie	
Configuration details		
		_
Charging source:	PV or Grid	Allow to charge battery
	PV will charge battery first. If PV power is loss, grid will charge battery	Allow AC to charge battery
Load supply source (PV is available):	PV-Battery-Grid	Allow to feed-in to the Grid
	Priority: 1 st: PV -> 2nd: Battery -> 3rd: Grid	Allow battery to discharge when PV is available
Load supply source (PV is unavailable):	Grid-Battery	Allow battery to discharge when PV is unavailable
	Priority :1st: Grid -> 2nd: Battery	Allow battery to feed-in to the Grid when PV is available
		Allow battery to feed-in to the Grid when PV is unavailable
🥅 When battery voltage <	48 V, the AC starts charging	
Allow AC-charging duration :	00:00 🗧 🕤 04:00 📮 00:00 - 00:00 Means AC charger operates all-time	
AC Output ON/Off Timer:	00:00 - / 00:00 - 00:00 / 00:00 means AC Output timer function disable	
Ac output onvoir rimer.	00.00 V 00.00 V 00.00 means AC Output timer function disable	
		Apply Close

PV energy supply priority setting: 1<sup>st</sup> Load, 2<sup>nd</sup> Battery

PV power will provide power to load first and then charge battery. Feed-in to the grid is not allowed under this mode. The grid relay is NOT connected in Inverter mode. That means the transfer time from inverter mode to battery mode will be about 15ms. If connected load is over nominal output power and grid is available, this inverter will allow grid to provide power to the loads and PV power to charge battery. Otherwise, this inverter will activate fault protection.

#### Battery charging source:

- 1. PV or Grid: If there is remaining PV power after supporting the loads, it will charge battery first. Only until PV power is not available, grid will charge battery.
- 2. PV only: It is only allow PV power to charge battery.
- 3. None: It is not allowed to charge battery no matter it's PV power or grid.

**NOTE:** It's allowed to set up AC charging duration.

#### Load supply source:

When PV power is available: 1st PV, 2nd Battery, 3rd Grid

PV power will provide power to the load first. If it's not sufficient, battery power will back up the load. Only after battery power is running, Grid will back up the load.

When PV power is not available:

- 1. 1<sup>st</sup> Grid, 2<sup>nd</sup> Battery: Grid will provide power to the load at first. If grid is not available, battery power will provide power backup.
- 2. 1<sup>st</sup> Battery, 2<sup>nd</sup> Grid: Battery power will provide power to the load at first. If

battery power is running out, grid will back up the load.

**NOTE:** This option will become ineffective during AC charging time and the priority will automatically become 1<sup>st</sup> Grid and 2<sup>nd</sup> Battery order. Otherwise, it will cause battery damage.

#### AC Charging Setup

When selected, after battery voltage is lower than setting (xx.x V), AC will start to charge battery. When this condition is selected, it's allowed to enter setting voltage. Otherwise, it's impossible to enter any values.

Allow AC charging duration: It's a period time to allow AC (grid) to charge battery. When the duration is set up as 0:00-00:00, it means no time limitation for AC to charge battery.

AC output ON/Off Timer: Set up on/off time for AC output of inverter. If setting it as 00:00/00:00, this function is disabled.

Allow to charge battery: This option is automatically determined by setting in "Charging source". It's not allowed to modify here. When "NONE" is selected in charging source section, this option becomes unchecked as grey text.

Allow AC to charge battery: This option is automatically determined by setting in "Charging source". It's not allowed to modify here. When "Grid and PV" or "Grid or PV" is selected in charging source section, this option is default selected. Under Grid-tie mode, this option is invalid.

Allow to feed-in to the Grid: This option is only valid under Grid-tie and Grid-tie with backup modes. Users can decide if this inverter can feed-in to the grid.

Allow battery to discharge when PV is available: This option is automatically determined by setting in "Load supply source (PV is available)". When "Battery" is higher priority than "Grid" in Load supply source (PV is available), this option is default selected. Under Grid-tie, this option is invalid.

Allow battery to discharge when PV is unavailable: This option is automatically determined by setting in "Load supply source (PV is unavailable)". When "Battery" is higher priority than "Grid" in Load supply source (PV is unavailable), this option is default selected. Under Grid-tie mode, this option is invalid.

Allow battery to feed-in to the Grid when PV is available: This option is only valid in Grid-tie with backup II or Grid-tie with backup III modes.

Allow battery to feed-in to the Grid when PV is unavailable: This option is only valid in all options of Grid-tie with backup mode.

## 4.2.2 Parameter Setting

Select Device Control >> Parameter Setting or select shortcut icon

available parameter settings when setting operation mode.

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

When setting in Grid-tie with backup mode or Grid-tie mode, some parameters are related to local grid standard and can't be modified without factory password. Please refer to red squares in Diagrams 4-11A and 4-11B. Any mis-setting could cause inverter damage or not working. Please check local dealers for the details. Refer to Diagram 4-12C for off-grid setting mode.

- **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.

Parameters setting				_			
Min. grid-connected voltage: 184 🎒 🗸	Apply	The waiting time before grid-connection:	60 🌲	Sec.	Apply		
Max. grid-connected voltage: 264.5 📮 V	Apply	Max. grid-connected average voltage:	253 🌲		Apply		
Min. grid-connected frequency: 47.48 🗧 Hz	Apply	Max, feed-in grid power:	5,000 🌲		Apply		
Max. grid-connected frequency: 51.5 🚔 Hz	Apply	Feed-in power factor:	1 🌲		Apply		
Min. PV input voltage: 200 🚑	V Apply	Floating charging voltage:	54 🗘		Apply		
Max. PV input voltage: 900 🌲	V Apply	Battery cut-off discharging voltage when Grid is available:	48 🌲		Apply		
Min. MPP voltage: 250 🌲	V Apply	Battery re-discharging voltage when Grid is available:	54 🌻		Apply		
Max. MPP voltage: 850 🚔	V Apply	Battery cut-off discharging voltage when Grid is unavailable:	42 🌲		Apply		
Max. charging current: 60 🚍	A Apply	Battery re-discharging voltage when Grid is unavailable:	48 🌲		Apply		
Max. AC charging current: 60 🚍	A Apply	Battery temperature compensation:	0 ≑		Apply		
Bulk charging voltage(C.V. voltage): 56 🍧	V Apply	Max. battery discharge current in hybrid mode:	150 🌲		Apply		
Start LCD screen-saver after: 60 🔽	Sec. Apply	Feeding grid power calibration:	0 🌲		Apply		
Mute Buzzer alarm: O Enable O Disable Apply Generator as AC source: O Enable O Disable Apply							
Mute the buzzer in the Standby mode: 🛛	Enable 💿 Disable	Apply Wide AC input range: O Er	nable 🖲 Di	isable	Apply		
Mute alarm in battery mode: O Enable O Disable Apply Parallel for output: O Enable O Disable Apply							
Activate Li-Fe battery while commissioning: O Yes O No Apply							
Emergency power supply control							
Battery voltage to cut-off mains output in battery mode 42 V 🔿 Enable 💿 Disable Apply							
Battery voltage to turn on mains output in battery mode 48 V							
When float charging current is less than X (A) and cont	tinued T (Min),then ch	arger off, when battery voltage is less than Y (V), then charger or	n again.				
X: 0 A T: 60 Min. Y: 53 V Apply							
Any schedule change will affect the power generated and shall be conservatively made.							
System time: 2015-11-20 🚔							
10:57:32 Apply							
					Close		

Diagram 4-11A (Grid-Tie with Backup mode)

Parameters setting							
Min. grid-connected voltage:	184 🗧 V 🛛 Apply	The waiting time before grid-connection:	60 🍦 Sec.	Apply			
Max. grid-connected voltage:	264.5 🗧 V 🛛 Apply	Max. grid-connected average voltage:	253 🌲 V	Apply			
Min. grid-connected frequency:	47.48 🗧 Hz 🛛 Apply	Max. feed-in grid power:	5,000 🌲 🛛 W	Apply			
Max. grid-connected frequency:	51.5 🗧 Hz Apply	Feed-in power factor:	1 🚔	Apply			
Min. PV input voltage:	200 🗧 V 🛛 Apply	Min. MPP voltage:	250 🌲 V	Apply			
Max. PV input voltage:	900 🗧 V 🛛 Apply	Max. MPP voltage:	850 🌲 V	Apply			
Start LCD screen-saver after: 60	D 🔻 Sec. Apply						
Mute Buzzer alarm: 🔘 Enable 🔍 Disable Apply Mute the buzzer in the Standby mode: 🔘 Enable 🔍 Disable Apply							
Emergency power supply control							
Battery voltage of cut-off Main output in battery mode 42 V 🔿 Enable 💿 Disable Apply							
Battery voltage of re-connecting Main output in battery mode 48 🚔 V							
When float charging current is less tha	n X (A) and continued T (Min),	then charger off; when battery voltage is less than Y (v	/),then charger on a	gain.			
X: 0 📮 A	T: 60 📮 Min.	Y: 53 V Apply					
🥌 Any schedule chang	ge will affect the power genera	ated and shall be conservatively made.					
System time: 2015-11-20	<b>*</b>						
11:00:30	Apply						
				Close			

Diagram 4-11B (Grid-Tie mode)

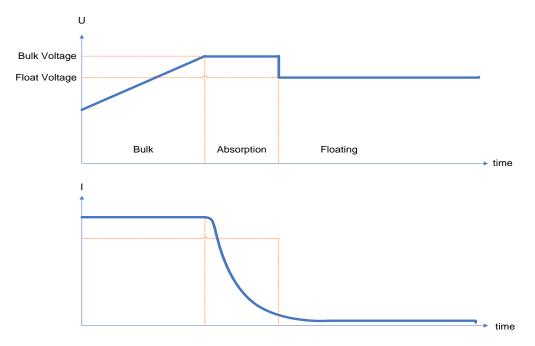
Parameters setting										
Min. PV input voltage:	200	Apply	Floating charging voltage:	54 V Apply						
Max. PV input voltage:	900	V Apply	Battery cut-off discharging voltage when Grid is available:	48 V Apply						
Min. MPP voltage:	250	Apply	Battery re-discharging voltage when Grid is available:	54 V Apply						
Max. MPP voltage:	850	Apply	Battery cut-off discharging voltage when Grid is unavailable:	42 V Apply						
Max. charging current:	60 🚍 🧳	A Apply	Battery re-discharging voltage when Grid is unavailable:	48 🖶 V 🛛 Apply						
Max. AC charging current:	60 📮 🧳	A Apply	Battery temperature compensation:	0 mV Apply						
Bulk charging voltage(C.V. voltage):	56	Apply	Max. battery discharge current in hybrid mode:	150 A Apply						
Start LCD screen-saver after:	60 💌 :	Sec. Apply	Feeding grid power calibration:	0 W Apply						
Mute Buzzer alarm:   Enable  Disable  Apply Generator as AC source:  Enable  Disable  Apply										
Mute the buzzer in the Standby mode: O Enable O Disable Apply Wide AC input range: O Enable O Disable Apply										
Mute alarm in battery mode: O Enable O Disable Apply. Parallel for output: O Enable O Disable Apply.										
Activate Li-Fe battery while commissioning: O Yes  No Apply										
Emergency power supply control										
Battery voltage to cut-off mains output	in halton mod		V 🔿 Enable 🔍 Disable Apply							
Battery voltage to turn on mains output	in battery mod	e 48 🖶								
			en charger off, when battery voltage is less than Y (V),then charger on	again.						
X: 0 A T:	60 📼	Min.	Y: 53 V Apply							
Any schedule change v	vill affect the p	ower generate	ed and shall be conservatively made.							
System time: 2015-12-04										
10:01:10	Apply									
				Close						

Diagram 4-11C (Off-Grid mode)

- Min. grid-connected voltage: The acceptable low voltage point for solar inverter with grid connected.
- Max. grid-connected voltage: The acceptable high voltage point for solar inverter with grid connected.
- Min. grid-connected frequency: The acceptable low frequency point for solar inverter with grid connected.
- Max. grid-connected frequency: The acceptable high frequency point for solar inverter with grid connected.
- The waiting time before grid-connection:
- Max. grid-connected average voltage: When the average voltage is higher than this setting, it will be identified as the utility is abnormal.
- Max. feed-in grid power: Maximum power to feed-in to the grid.
- Feed-in power factor: setting range is -0.99~-0.90 and 0.90~1.00.
- 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. charging current: The acceptable high charging current point.
- Max. AC charging current: The maximum acceptable charging current from AC. If this AC charging current is higher than max. charging current, max. charging current will be set up as real charging current.
- Bulk charging voltage (C.V. voltage): Please check battery spec to set up this figure.
- Floating charging voltage: Please check battery spec to set up this figure.

The curve of Bulk charging voltage (C.V. voltage) and Floating charging voltage are listed as below:



- Start LCD screen-saver after: The maximum duration time to activate LCD backlight.
- Battery cut-off discharging voltage when Grid is available: It's to set up battery cut-off discharge voltage when grid is available.
- Battery re-discharging voltage when Grid is available: It's to set up battery re-charging voltage when grid is available.
- Battery cut-off discharging voltage when Grid is unavailable: It's to set up battery cut-off discharging voltage when grid is not available.
- Battery re-discharging voltage when Grid is unavailable: It's to set up battery re-discharging voltage when grid is not available.
- Battery temperature compensation: It's to adjust charging voltage based on 2V/cell when battery temperature is changing between 0~50°C. All charging settings are

based on 25°C. If setting battery temperature compensation as 5mV, charging voltage will be reduced by the following formula.

(T-25) \* (Battery voltage with serial connection / 2) \* 5mV

For example, 3-phase inverter with 48VDC under 30°C environment.

(30 - 25) \* (48VDC / 2 V/cell) \* 5 mV = 600mV. Then, when battery temperature is higher 5°C, charging voltage will be reduced 600mV. Vice versa.

- Feeding grid power calibration: This function allows to calibrate inverter output power to meet demanding power for connected load and avoid overflow to the grid.
- Max. battery discharge current in hybrid mode: It allows to set up maximum battery discharge current in grid-tie and grid-tie with backup mode operation.
- Mute Buzzer alarm: If it's activated, when fault or warning occurs, it will not sound. 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.
- Mute the buzzer in battery mode: If it's activated, the buzzer will not sound when the device is in the Battery mode. Vice versa.
- Generator as AC source: If enabled, the unit is able to accept generator as AC power source. When this function is enabled, it's recommended to enable "Wide AC input voltage range" item.
- Activate Li-Fe battery while commissioning: If yes is selected, Li-Fe battery will be activated while commissioning.
- Wide AC input range: If disabled, the acceptable AC input voltage range will be determined by setting voltage between min. grid-connected voltage and max. grid-connected voltage and setting frequency between min. grid-connected frequency and max. grid-connected frequency. If enabled, AC input voltage range will become 170V ~ 280V. The acceptable frequency range become 40Hz ~ 55Hz for 50 Hz system and 55Hz ~ 65Hz for 60 Hz system. When either AC input voltage or AC input frequency is beyond the grid-connected setting range, it's not allowed to feed-in back to grid. At this time, it's only available to provide power to loads or charge battery.
- Parallel for output: If it's enabled, inverter will be set for parallel system. Otherwise, it just works in single model.
- Emergency power supply control: EMS port is available to provide a power source (230V/5A) for emergency lights and load. When "Emergency power supply control" is enabled, EMS port will be active. Even though AC output will be cut off while battery voltage drops, EMS port can still offer output power for emergency use.
- When float charging current is less than X (A) and lasts T (Min), then charger is off. When battery voltage is less than Y (V), then charger is on again.
- System time: It presents the device time zone. Any modification may affect the

calculation of power generation. Please conservatively make any change.

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

#### 4.2.3 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. Refers to Diagram 4-12A for grid-tie with backup mode and Diagram 4-12B for Off-Grid mode.

📕 Restore to the defaults		_			X							
Min. grid-connected voltage:	184.0		Max. charging current:	60.0	A							
Max. grid-connected voltage:	264.5		Floating charging voltage:	54.0								
Min. grid-connected frequency:	47.48	Hz	Bulk charging voltage(C.V. voltage):	56.0								
Max. grid-connected frequency:	51.5	Hz	Battery cut-off discharging voltage when Grid is available:	48.0								
Max. grid-connected average voltage:	253		Battery re-discharging voltage when Grid is available:	54.0								
Min. PV input voltage:	200		Battery cut-off discharging voltage when Grid is unavailable:	42.0	v							
Max. PV input voltage:	900		Battery re-discharging voltage when Grid is unavailable:	48.0	v							
Min. MPP voltage:	250		Start LCD screen-saver after:	60	S							
Max. MPP voltage:	850											
	This operation will also clear all existed data stored here, and shall be used cautiously.											
					Close							

Diagram 4-12A (Grid-tie with backup)

🔀 Restore to the defaults 💦												
Min. AC input voltage:	184.0		Max. charging current:	60.0	A							
Max. AC input voltage:	264.5		Floating charging voltage:	54.0								
Min. AC input frequency:	47.48	Hz	Bulk charging voltage(C.V. voltage):	56.0								
Max. AC input frequency:	51.5	Hz	Battery cut-off discharging voltage when Grid is available:	48.0								
Min. PV input voltage:	200		Battery re-discharging voltage when Grid is available:	54.0								
Max. PV input voltage:	900		Battery cut-off discharging voltage when Grid is unavailable:	42.0								
Min. MPP voltage:	250		Battery re-discharging voltage when Grid is unavailable:	48.0								
Max. MPP voltage:	850		Start LCD screen-saver after:	60								
This opera	This operation will also clear all existed data stored here, and shall be used cautiously.											
					Close							

Diagram 4-12B (Off-Grid)

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

# 4.2.4 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 4-13.

Output synch	ronization da	ta				
Period NO.	Date	Time	Synchronization du	. Device	Automatic output synchronization d	
daily		17:34	1	9000000000000		
					Device:	900000000
					Synchronization period:	• Daily
						O Weekly
						O Monthly
					Time:	17:34 📮
					Synchronization duration:	1 🔽 Day(s)
						Add Delete
					Manual output synchronization data	a
					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 4-13

#### Automatic output synchronization data

- Select device
- Set frequency (daily, weekly, monthly, and time) to automatically sync output data.
- Add schedule into calendar by clicking "Add" button. Every device is only applied one sync schedule.
- Delete schedule by selecting one schedule from the list and clicking "delete" button to remove.

#### Manual output synchronization data

- Select device
- 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.

**NOTE:** No matter it's automatic or manual sync, this action is only applied to unsaved data 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 first.

# 4.2.5 Real-time control

It's to real-time control AC output and activate Li-Fe battery.

Select Device control >> Real-time control. Refer to Diagram 4-14.



Diagram 4-14

- AC output control: Turn on or turn off AC output immediately when clicking "Apply" button.
- Activate Li-Fe Battery now: To activate Li-Fe battery when clicking "Yes" button. Please be aware AC output will be cut off when this action is executed if "Activate Li-Fe battery while commissioning" is selected in parameter setting. AC output will be restored after this action is executed completely.

# 4.3 View

# 4.3.1 Power generation log data

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

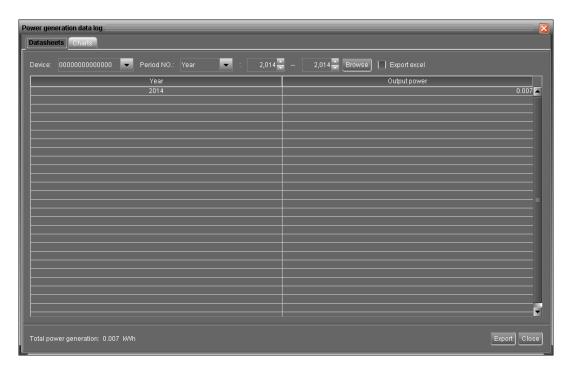
### • Datasheets

Select View >>Power generation log data>>Datasheets or click shortcut icon

Refer to Diagram 4-15.

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.



#### Diagram 4-15

#### • Charts

Select View >> Power generation log data >> Charts. Refer to Diagram 4-16.

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

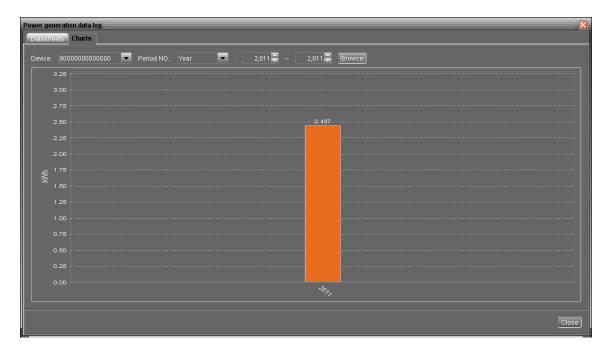


Diagram 4-16

### 4.3.2 Data

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

• 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.
- **"Export":** Click "Export" button to save listed table to local PC in .PDF 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.

	1511100054			Device mode		period: 2015		- 2015 2015		Brows			
Device mode Inverter		PV1 input vol 377.7	PV2 input vo 0.0	PV1 input po 3698	PV2 input po	Grid voltage 0.0				Battery capa 85		Inner temper 32.0	Temperature 45.0
			0.0	3464						81			45.0 45.0
			0.0	3464									45.0 46.0
<u> </u>			0.0	3845									45.0
			0.0	3680									45.0
			0.0	0									45.0
			0.0	0						85			46.0
			0.0	685									45.0
	2015-11-20			3353									46.0
Inverter	2015-11-20	394.7	0.0	3860	0	0.0	0.0	103	51.6	84	-0.7	32.0	46.0
Inverter	2015-11-20	389.2	0.0	3861	0	0.0	0.0	102	51.3	81	-0.0	32.0	46.0
Grid-tie with	2015-11-20	388.7	0.0	3804	0	218.2	50.02	83	56.0	83	45.5	32.0	46.0
Inverter	2015-11-20	375.7	0.0	3680	0	0.0	0.0	103	51.4	87	-3.5	32.0	45.0
Inverter	2015-11-20	377.7	0.0	3654	0	0.0	0.0	104	51.1	83	-2.8	32.0	45.0

Diagram 4-17

#### • Charts

Select View >>Data>>Charts. Refer to Diagram 4-18.

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

ce: 96131511100054	Period NO.:	Year	- :	2,015 🛟	Browse							
PV1 input voltage	1000											
PV2 input voltage												
PV1 input power												
PV2 input power												
Grid voltage	800											
Grid frequency	700											
Load level												
Battery voltage	600											
Battery capacity	550											
Charging current	> 500											
AC output active power	450											
C output apparent power												
Inner temperature												
Temperature	300 250											
romporatare	200											
	50											
	0	02	03	04	05	06	07	08	09	10	11	12
	01	02	03	04	05	06	07	08	09	10	11	12

Diagram 4-18

## 4.3.3 Fault data log

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

Select View >>Fault data log or click shortcut icon

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

Fault data log					owse 🦳 Export ex				_
Device: 9513151110			🛗 2015-1	Grid voltage		cei Battery voltaαe	Ob anning a summant	Grid output voltage	Load frequency
2015-11-17 14:26:10	Fault message	PV1 input voltage 0.4	PV2 input voltage 0.0		Grid frequency 0.0		Charging current		50.0
2015-11-17 14:20:10		0.4	0.0				0.0		0.0
2015-11-17 15:00:44			15.8				0.0		0.0
2015-11-17 15:00:44		17.0	16.3				0.0		0.0
2015-11-17 15:00:45			23.2						0.0
2015-11-17 15:04:39			23.2						0.0
2015-11-17 15:04:40			23.4 35.9						0.0
2015-11-17 19:22:38			36.1				0.0		0.0
2015-11-17 19.22.39	Current sample ab	37.3	30.1	0.0	0.0	8.2	0.0	0.0	0.0
'otal: 8 row(s)								Export Delete	Delete all Clos

Diagram 4-19

## 4.3.4 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 4-20.

Select View >>Event log or click shortcut icon

to enter event log.

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

2014-10-24 18:03:42 AC input waveform abnormal 2014-10-24 18:03:42 AC input phase sequence error		2001	Warning	Solar inp	ut 1 Jaco						
					ut i 1055						
		2002	Warning	Solar inp	ut 2 loss				1		
2014-10-24 18:03:42 AC input frequency loss		2011	Warning	Grid volta	ge low lo	ss			1		
2014-10-24 18:03:42 AC input voltage loss		2013	Warning	Netzfrequ	ienz gerir	iger Verlu	ist		1		
2014-10-24 18:03:42 Netzfrequenz geringer Verlust		2015 Warning AC input voltage loss 1									
2014-10-24 18:03:42 Grid voltage low loss		2016 Warning AC input frequency loss 1									
2014-10-24 18:03:42 Solar input 2 loss		2018	Warning	AC input	phase se	quence e	error		1		
2014-10-24 18:03:42 Solar input 1 loss		2022	Warning	AC input	waveform	abnorm	al		1		
2014-10-24 18:03:42 Communication restore		3001	Messa	Commun	ication re	store			1		
		Number of times		1	2011	1	1 2015 ID	1	1	1	1
	2014-10-24 18:03:42       Netzfrequenz geringer Verlust         2014-10-24 18:03:42       Grid voltage low loss         2014-10-24 18:03:42       Solar input 2 loss         2014-10-24 18:03:42       Solar input 1 loss         2014-10-24 18:03:42       Communication restore         2014-10-24 18:03:42       Communication restore	2014-10-24 18:03:42       Netzfrequenz geringer Verlust         2014-10-24 18:03:42       Grid voltage low loss         2014-10-24 18:03:42       Solar input 2 loss         2014-10-24 18:03:42       Solar input 1 loss         2014-10-24 18:03:42       Communication restore	2014-10-24 18:03:42       Netzfrequenz geringer Verlust         2014-10-24 18:03:42       Grid voltage low loss         2014-10-24 18:03:42       Solar input 2 loss         2014-10-24 18:03:42       Solar input 1 loss         2014-10-24 18:03:42       Communication restore         2014-10-24 18:03:42       Communication restore	2014-10-24 18:03:42       Netzfrequenz geringer Verlust         2014-10-24 18:03:42       Grid voltage low loss         2014-10-24 18:03:42       Solar input 2 loss         2014-10-24 18:03:42       Solar input 1 loss         2014-10-24 18:03:42       Communication restore         2014-10-24 18:03:42       Communication restore	2014-10-24 18:03:42       Netzfrequenz geringer Verlust         2014-10-24 18:03:42       Grid voltage low loss         2014-10-24 18:03:42       Solar input 2 loss         2014-10-24 18:03:42       Solar input 1 loss         2014-10-24 18:03:42       Communication restore         2014-10-24 18:03:42       Communication restore         1       1	2014-10-24 18:03:42 Netzfrequenz geringer Verlust 2014-10-24 18:03:42 Grid voltage low loss 2014-10-24 18:03:42 Solar input 2 loss 2014-10-24 18:03:42 Solar input 1 loss 2014-10-24 18:03:42 Communication restore 2014-10-24 18:03:42 Com	2014-10-24 18:03:42 Netzfrequenz geringer Verlust 2014-10-24 18:03:42 Grid voltage low loss 2014-10-24 18:03:42 Solar input 2 loss 2014-10-24 18:03:42 Solar input 1 loss 2014-10-24 18:03:42 Communication restore 2014-10-24 18:03 Communication restore 2014-10-24 18:03 Communica	2014-10-24 18:03:42 Net/requenz geringer Verlust 2014-10-24 18:03:42 Grid voltage low loss 2014-10-24 18:03:42 Solar input 2 loss 2014-10-24 18:03:42 Solar input 1 loss 2014-10-24 18:03:42 Communication restore 2014-10-24 18:03:42 Communication restore 2014 2014 2014 2014 2014 2015	2014-10-24 18:03:42       Net/requency geringer Verlust         2014-10-24 18:03:42       Grid voltage low loss         2014-10-24 18:03:42       Solar input 2 loss         2014-10-24 18:03:42       Solar input 2 loss         2014-10-24 18:03:42       Solar input 1 loss         2014-10-24 18:03:42       Solar input 1 loss         2014-10-24 18:03:42       Communication restore         2014       2015       2010       2011       2013       2015         2014       2014       2014       2014       2014       2014       2014	2014-10-24 18:03:42       Net/Frequency geringer Verlust       2015       Warning AC input voltage loss       1         2014-10-24 18:03:42       Solar input 2 loss       1       2016       Warning AC input trequency loss       1         2014-10-24 18:03:42       Solar input 2 loss       2018       Warning AC input phase sequence error       1         2014-10-24 18:03:42       Solar input 1 loss       2022       Warning AC input waveform abnormal       1         2014-10-24 18:03:42       Communication restore       1	2014-10-24 18:03.42       Net#frequency geringer Verlust         2014-10-24 18:03.42       Grid voltage low loss         2014-10-24 18:03.42       Solar input 2 loss         2014-10-24 18:03.42       Solar input 2 loss         2014-10-24 18:03.42       Solar input 1 loss         2014-10-24 18:03.42       Solar input 1 loss         2014-10-24 18:03.42       Communication restore         2014-10-24 18:03

Diagram 4-20

### **4.3.5 Monitored Device Information**

This screen will display basic information of monitored device, including Product information, Rated information and Purchasing information.



Select View >> Monitored Device Information or click shortcut icon Diagram 4-21.

 Product information: including Model type, Topology, Main CPU processor version, Secondary CPU processor version, Output phase, Nominal input voltage, Nominal output voltage, and so on.

- Rated information: including nominal output power, min. AC input voltage, max. AC input voltage, min. AC input frequency, max. AC input frequency, max. PV input current, rated battery voltage, nominal grid-connected voltage, nominal grid-connected frequency, Nominal grid-connected current, max. input current for each PV and number of maximum-power-tracing units. These listed information will be different based on different mode setting for inverter.
- Purchasing information: including Purchasing date, Warranty for device, Device P/N, and so on.

Monitored device information	×
Product Information	
Model type: Hybrid	d Nominal input voltage: 230.0 V
Topology: transl	formerless Nominal output voltage: 230.0 V
Main CPU processor version: 0000	1.01 Number of batteries: 4
Secondary CPU processor version: 0000	1.01 Nominal battery voltage: 48.0 V
Output phase: 1/1	
Rated information	
Nominal output power: 5000.0 W	Nominal grid voltage: 230.0 V
Min. AC input voltage: 170.0 V	Nominal grid frequency: 50.0 Hz
Max. AC input voltage: 280.0 V	Nominal grid-connected current: 21.7 A
Min. AC input frequency: 40.0 Hz	Max. PV input current: 10.0 A
Max. AC input frequency: 55.0 Hz	Rated battery voltage: 48.0 V
Purchasing information	
Purchasing date: 2015-11-20 🛗	
Warranty for device: 1 🗧 Year	
Device P/N	
Apply	
	Close

Diagram 4-21

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

# 4.4 Login and Logout



Icon kiplay users don't log in SolarPower

to display users has logged in SolarPower Icon



Click icon 🔛 and enter password to log in the software. The default password is "administrator". Refer to Diagram 4-22.

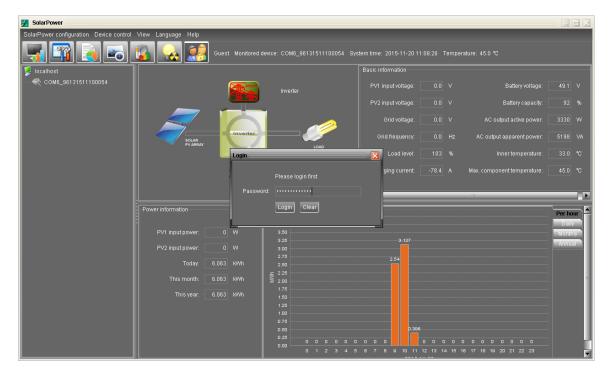


Diagram 4-22

Click icon to log out. Refer to Diagram 4-23.

🗾 SolarPower							
SolarPower configuration Device control View	/ Language Help						
			tored device: COM6_96131511100054	System time: 2015-11	1-20 11:08:44	Temperature: 46.0 °C	
💈 localhost			В	asic information			
Сом6_96131511100054			Bypass with PV charging	PV1 input voltage:		Battery voltage:	52.2 V
				PV2 input voltage:		Battery capacity:	82 %
				Grid voltage:		AC output active power:	2713 VV
		Inverter				AC output apparent power:	4013 VA
			LOAD	Load level:		Inner temperature:	32.0 °C
		Logout		Charging current	61.6 A		46.0 °C
		2	You are going to logout, are you sure?				
			是的一番N		_	m	
-Po			4.00	J			Per hour
			3.75 3.50 3.25	3.127			Daily Monthly
							Annual
				2.54			
		5.063 KM/h	£ 2.25				=
	This year: 8	3.063 k///h	1.75				
			1.00 0.75				
			0.50	0.396			
			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 0 16 17 18 19 20 21 22 23	-

Diagram 4-23

# 4.5 Language

Currently, this software offers 13 languages for selection:

- $\checkmark$  Chinese (Simplified)
- $\checkmark$  Chinese (Traditional)
- $\checkmark$  English
- 🗸 German
- 🗸 Italian
- $\checkmark$  Polish
- $\checkmark$  Portuguese
- $\checkmark$  Russian
- $\checkmark$  Spanish
- 🗸 Ukrainian
- $\checkmark$  French
- 🗸 Turkish
- √ Japanese

When first using the software, it will display proper language 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.