# **User Manual**

# WatchPower

Management Software for Inverter

## **Table of Contents**

1.	WatchPower Overview 1
1.1	. Introduction1
1.2	. Features1
2.	WatchPower Install and Uninstall1
2.1	. System Requirement1
2.2	. Software Install2
2.3	. Software Uninstall
3.	Tray Application
3.1	. Startup
3.2	. Configuration4
3.3	. Software Upgrade4
3.4	. SNMP Manager5
3.5	. Open Monitor18
3.6	. Icon and Software Status18
3.7	. Message Board18
3.8	. Exit
4.	GUI Interface
4.1	. WatchPower Configuration23
4.2	. Device control
4.3	. View
4.4	. Log in and Log out41
4.5	. Rename
4.6	. Language
4.7	. Help

## **1. WatchPower Overview**

## 1.1. Introduction

WatchPower is an inverter monitoring software which can monitor multiple devices via serial port at the same time. The major functions of WatchPower monitoring software include data log for devices, 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
- Supports online upgrade and manually upgrade

## 2. WatchPower 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 XP/2000/2003/Vista/2008 (32-bit & 64-bit)
  - Windows 7/8 /8.1/10(32-bit & 64-bit)
  - Windows SBS 2011
  - Linux RedHat 8, 9
  - Linux RedHat Enterprise AS3, AS5, AS6 (32-bit)
  - Linux RedHat Enterprise AS6 (64-bit)
  - Linux RedHat Enterprise 5.2 (32-bit & 64-bit)
  - Linux SUSE 10 (32-bit & 64-bit)
  - Linux Cent OS 5.x ,6.x(32-bit & 64-bit)
  - Linux Ubuntu 8.X, 9.X, 10.X (32-bit )
  - Linux Ubuntu 10.X (64-bit)
  - Linux Ubuntu 12.04 (32-bit & 64-bit)
  - Linux Fedora 5
  - Linux OpenSUSE 11.2 (32-bit & 64-bit)
  - Linux Debian 5.x, 6.x (32-bit)
  - Linux Debian 6.x (64-bit)
  - Mac OS 10.x (64-bit)

## 2.2. Software Install

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



WatchPower 🗸 "context.sh" selected (956 bytes)

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



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

	root@centos:~/WatchPower .	_ 0	×
File	Edit View Search Terminal Help		
bash: [root	<pre>@centos WatchPower]# '/root/WatchPower/WatchPower' /root/WatchPower/WatchPower: Permission denied @centos WatchPower]# chmod 744 '/root/WatchPower/WatchPower' @centos WatchPower]# </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 "WatchPower" on your desktop. Refer to Diagram 3-1. Simply double click the shortcut icon. 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. Software Upgrades

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

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

🕺 configuration		🔀
Specify the URL for update files	-download.com/WatchPower/updatewindows.zip	
Save files to	C:\Program Files\WatchPower1.00\UpgradeFiles	Browse
💌 Online auto-update		
Apply the proxy configuration		
IP		
Pori		
Enable authentication	I	
Username		
Password		
Connection test		
		Apply Close

Diagram 3-3

## 3.2.2. Configuration Saved

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

## 3.3. Software Upgrade

Software upgrades includes online upgrade and manually upgrade.

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



## Diagram 3-4

• Manually Upgrade:

Users can manually upgrade the software. Follow below steps:

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

	Configuration
Online Upgrade	Software Upgrade 🔹 🕨
Manually Upgrade	Debug
	SNMP Manager
	Open Monitor
	Exit

## Diagram 3-5

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



Diagram 3-6

## 3.4. SNMP Manager

SNMP Manager is a plugin utility for WatchPower software. Users can search and operate all SNMP devices in the LAN via this interface. Then, WatchPower will automatically search and monitor these SNMP devices. Please open "SNMP Manager" by clicking right button of the mouse on service icon. It has four sections as marked in the illustration below:

ву SNMP Manager System Settings Language Help Д		
IP address MAC address 192.168.107.118 60-19-29-00-1C-BC	Basic Info IP settings Online upgrade System manager Static trap address IP address 192.168.107.118 MAC address 60-19-28-00-1C-BC	
B SNMP status: 1 SNMP reset enable Reset.		
192.168.107	Output window [09:42:19] 192:168:107.118 Online successfully. D	

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

B. SNMP device list can list down all SNMP devices located in current IP address.

**C. Configuration area** includes IP settings, online upgrade, password management, and static trap address.

D. Output window displays all messages for operations

## 3.4.1. SNMP Device List

The default value in window list would be current PC IP address. For example, if IP address of current PC is "192.168.102.10", it will display "192.168.102" in list when first enabling SNMP Manager.

## • Scan

You may enter specific IP address and then click "Scan" button to search.

## • Add

Click "Add" button and it will pop up a window to ask for entering specific IP address. Then, click "Apply" button to add IP address (Subnet). Refer to Diagram 3-7.

😰 SNMP Manager			
System Settings Language Help			
IP address 192.168.107.118	MAC address 60-19-29-00-1C-BC	Basic Info         IP settings         Online upgrade         System manager         Static trap address           IP address         192.168.107.118         MAC address         50-19-29-00-1C-BC	
SNMP status: 1	SNMP reset enable Reset	Please enter the IP address. 192.168.103 Apply Cance Uuput window [09:42:19] 192.168.107.118 Online successfully.	



## • Delete

Select unnecessary IP address from list and click "Del" button to delete from list.

#### • SNMP Status

After one IP address is selected from the IP list, SNMP status will display 0 or 1. If there is program inside SNMP card, SNMP status would show 1. If there is no program inside, SNMP status would display 0. If there is no IP selected, SNMP status will be the default "---". Refer to Diagram 3-8.



Diagram 3-8

#### • Reset

If it's necessary to restart the device IP addresses, please select the "SNMP reset enable" and click on the "Reset" button. Then, after entering password to confirm the login, you can restart the device. Please follow below steps to execute this action:

**Step 1:** Select from the IP list of equipment needed to restart IP. Refer to Diagram 3-9.

B SNMP Manager				
System Settings Language Help				
ID address         MAC address           192.168.107.121         00-08-30-00-F7-1A           192.106.107.123         00-00-32-00-00-00	Basic Info IP settings Online upgrade System manager Static trap address IP address 192.168.107.121 MAC address 00-08-3C-00-F7-1A			
SNMP status: 1 StimP reset enable Reset	Output Window [11:10:00] 192:168:107.121 Online successfully. [11:12:57] 192:168:107.121 Online successfully. [11:13:45] 192:168:107.121:Wrong password entered. Please retry to logon. [11:14:38] Communication fails. Please check your network.			
	[1:1:4:44]       192.168.107.121       Online successfully.         [1:1:5:3]       192.168.107.121       Online successfully.         [1:1:5:47]       192.168.107.121       Online successfully.         [1:1:5:47]       192.168.107.121       Online successfully.         [1:1:6:11]       192.168.107.121       Online successfully.         [1:1:6:11]       192.168.107.121       Online successfully.			

Diagram 3-9

**Step 2:** After IP is selected, please click the checkbox of "SNMP reset enable". Then, "Reset" button will become valid. Refer to Diagram 3-10.

IP address	MAC address	Basic Info IP settings Online upgrade System manager Static trap address
192.168.107.121	00-08-3C-00-F7-1A	IP address 192.168.107.121
192.168.107.125	00-00-5E-00-00-00	MAC address 00-08-3C-00-F7-1A
SNMP status: 1	SNMP reset enable Reset	Output window           [11:10:00]         192.168.107.121 Online successfully.           [11:12:57]         192.168.107.121 Online successfully.           [11:13:45]         192.168.107.121 Wrong password entered. Please retry to logon.           [11:14:38]         Communication fails. Please check your network.           [11:14:44]         192.168.107.121 Online successfully.           [11:15:11]         192.168.107.121 Online successfully.           [11:15:11]         192.168.107.121 Online successfully.           [11:15:14]         192.168.107.121 Online successfully.           [11:15:47]         192.168.107.121 Online successfully.           [11:16:11]         192.168.107.121 Online successfully.

Diagram 3-10

Step 3: Click the "Reset" button. It will prompt the dialog to confirm the operation. If "Yes" is selected, it will prompt the dialog to confirm login. If "No" is selected, it will stop this operation. Refer to Diagram 3-11.

SNMP Manager	
System Settings Language Help	
IP address         MAC address           192.168.107.121         00-08-3C-00-F7-1A           192.168.107.125         00-00-SE-00-00-00	Basic Info IP settings Online upgrade System manager Static trap address IP address 192.168.107.121 MAC address 00-08-3C-00-F7-1A m m wu sure to operate? 192.168.107.121 west No
SNMP status: 1 SNMP reset enable Reset	Output window           [11:10:00]         192.168.107.121 Online successfully.           [11:12.57]         192.168.07.121 Online successfully.           [11:13:45]         192.168.07.121 Online successfully.           [11:14:43]         Communication fails. Please check your network.           [11:14:43]         192.168.07.121 Online successfully.           [11:14:45]         192.168.07.121 Online successfully.           [11:15:11]         192.168.107.121 Online successfully.           [11:16:11]         192.168.107.121 Online successfully.           [11:16:11]         192.168.107.121 Online successfully.           [11:16:11]         192.168.107.121 Online successfully.

Diagram 3-11

**Step 4:** After entering password and select "Login", you will be prompted to log in. Then, selected device will be restarted. If "Cancel" is selected, it will stop this operation.

B SNMP Manager	SNMP Manager			
System Settings Language Hel				
IP address 192.168.107.121 192.168.107.125	MAC address 00-08-3C-00-F7-1A 00-00-5E-00-00-00	Basic Info       IP settings       Online upgrade       System manager       Static trap address         IP address       192.188.107.121         MAC address       00-08-3C-00-F7-1A         Please login first         Password		
SNMP status: 1	Stan Add Del	Login         Cancel           Output window         [11:10:00]         192.168.107.121 Online successfully.           [11:12:67]         192.168.107.121 Online successfully.           [11:14:38]         Communication fails. Please check your network.           [11:14:38]         192.168.107.121 Online successfully.           [11:14:38]         192.168.107.121 Online successfully.           [11:14:41]         192.168.107.121 Online successfully.           [11:15:17]         192.168.107.121 Online successfully.           [11:16:17]         192.168.107.121 Online successfully.           [11:16:17]         192.168.107.121 Online successfully.           [11:16:17]         192.168.107.121 Online successfully.           [11:16:17]         192.168.107.121 Online successfully.           [11:10:16]         192.168.107.121 Online successfully.           [11:10:16]         192.168.107.121 Wrong password entered. Please retry to logon.		

Diagram 3-12

**NOTE:** If changing MAC address of current device before reboot and current device is obtained by DHCP (Automatically obtain IP address), you need to manually click

"Scan" button to get IP address after reboot.

## 3.4.2. SNMP Manager Function Menu

## 3.4.2.1. System

#### • Login

When remote login to access SNMP devices, it's necessary to verify ID. The default password is "12345678".

#### **Step1:** Select System >> Login

Step2: Enter default password and then click "Login" button. Or click "Cancel" to cancel

login. Refer to Diagram 3-13.

SNMP Manager		
System Settings Language Help		
IP address	MAC address	Basic Info IP settings Online upgrade System manager Static trap address
192.168.103.55	60-19-29-00-44-2E	
192.168.107.118	60-19-29-00-1C-BC	IP address
		MAC address
		Please login first
	Password	rd •••••••
SNMP status:	SNMP reset enable	
		Login Cancel
192.168.107 192.168.103	Scan	Culture Million
192.100.103	Add	[10:02:12] 192.168.107.118 Online successfully.
	Del	[10:02:35] 192.168.107.118: Wrong password entered. Please retry to logon.

Diagram 3-13

## • Logout

Log out system when access is no longer needed.

## • Quit

Select "Quit" to exit SNMP Manager.

## 3.4.2.2. Settings

#### • Basic Info

Basic information display IP address and Mac address. Refer to Diagram 3-14.

<b>3) SNMP Manager</b> System Settings Language Help	
IP address MAC address 192.168.103.55 60-19-29-00-44-2E 192.168.107.118 60-19-29-00-1C-BC	Basic Info         IP settings         Online upgrade         System manager         Static trap address           IP address         192.168.107.118         MAC address         60-19-29-00-1C-BC
SNMP status: 1 SNMP reset enable Recet	Output window           [1002:12]         192.168.107.118 Online successfully.           [1002:35]         192.168.107.118 Wrong password entered. Please retry to logon.           [1006:40]         Communication fails. Please check your network.           [1006:43]         192.168.103.55 Online successfully.           [1006:43]         192.168.103.55 Online successfully.           [10.06:44]         192.168.107.118 Online successfully.

Diagram 3-14

#### • IP Setting

Part 1: Change MAC address

Step 1: Select IP address from IP list. It will display MAC address of device in the output window. If it's necessary to modify the MAC address of the device, click checkbox of "Change". Refer to Diagram 3-15.

IP address 192.168.103.55	MAC address 60-19-29-00-44-2E	Basic Info IP settings Online upgrade System manager Static trap address
92.168.107.118	60-19-29-00-1C-BC	MAC address 60-19-29-00-1C-BC Change Apply
		Automatically obtain IP address
		Use a static IP address
		IP address 192.168.107.118
		Subnet mask 255.255.0
		Default Gateway 192.168.107.254
SNMP status: 1	SNMP reset enable Reset	
192.168.107 192.168.103	Scan	Output window
		[10:02:12]       192.168.107.118 Online successfully.         [10:02:35]       192.168.107.118 Wrong password entered. Please retry to logon.         [10:06:40]       Communication fails. Please check your network.         [10:06:43]       192.168.103.55 Online successfully.         [10:06:43]       192.168.103.55 Online successfully.         [10:06:44]       192.168.107.118 Online successfully.

Diagram 3-15

Step 2: After checkbox of "Change" is selected, enter new MAC address into column.

■ <mark>}) SNMP Manager</mark> System Settings Language Help		
IP address 192.168.103.55 192.168.107.118	MAC address 60-19-29-00-44-2E 60-19-29-00-1C-BC	Basic Info P settings Online upgrade System manager Static trap address MAC address 60-19-29-00-1C-BC C Change Apply Automatically obtain IP address Use a static IP address IP address 192.168.107.118 Subnet mask 265.265.255.0
SNMP status: 1	SNMP reset enable Reset	Default Gateway         192.168.107.254           Culput Window

"Apply" button will become valid to click. Refer to Diagram 3-16.

Diagram 3-16

**Step 3:** After modifying MAC address, click "Apply" button. Then it will prompt a dialog to confirm the operation. Refer to Diagram 3-17.

SNMP Manager		
System Settings Language Hel	p	
IP address	MAC address 60-19-29-00-44-2E	Basic Info IP settings Online upgrade System manager Static trap address
192.168.107.118	60-19-29-00-1C-BC	MAC address 60-19-29-00-1C-BC 🔽 Change Apply
		Automatically obtain IP address
		Use a static IP address
		IP address 192.168.107.118
		Subnet mask 255.255.255.0
	Confirm	n 192.168.107.254
SNMP status: 1	SNMP reset enable	e confirm again? 192.168.107.118 Apply
192.168.107 192.168.103	Scan	Output window
	Del	[10:02:12] 192.168.107.118 Online successfully. [10:02:35] 192.168.107.118 Online successfully. [10:06:43] 192.168.103.55 Online successfully. [10:06:43] 192.168.103.55 Online successfully. [10:06:44] 192.168.107.118 Online successfully.

Diagram 3-17

Step 4: If "Yes" is selected, it will prompt "Operation success" in output window. Refer to

Diagram 3-18.

IP address 92.168.103.55	MAC address 60-19-29-00-44-2E	Basic Info IP settings Online upgrade System manager Static trap address
92.168.107.118	60-19-29-00-1C-BC	MAC address Change Apply
		<ul> <li>Automatically obtain IP address</li> <li>Use a static IP address</li> </ul>
		IP address
		Subnet mask
		Default Gateway
SNMP status: 192.168.107 192.168.103	SNMP reset enable Reset	— Cutput window
192.108.103		10.02:12       192:168.107.118 Online successfully.         110.02:35       192:168.107.118. Wrong password entered. Please retry to logon.         110.06:40       Communication fails. Please check your network.         110.06:43       192:168.103.55 Online successfully.         110.06:44       192:168.103.55 Online successfully.         110.06:44       192:168.103.55 Online successfully.         110.06:44       192:168.107.118 Online successfully.         110.06:44       192:168.107.118 Online successfully.         110.08:42       Operation success

Diagram 3-18

Part 2: There are two methods to obtain IP address:

- Automatically obtain IP address (DHCP)
- Manually configure IP address

The system will default automatically obtain IP addresses. If there is no this kind of service provided in LAN, the default IP will display as "192.168.102.230", Net mask as "255.255.255.0" and default gateway as "0.0.0.0". Refer to Diagram 3-19.

SNMP Manager			🛛
System Settings Language Help			
IP address 192.168.103.55 192.168.107.118	MAC address 80-19-29-00-44-2E 80-19-29-00-1C-BC	Basic Info       IP settings       Online upgrade       System manager       Static trap address         MAC address       60-19-29-00-10-BC       Change       Apply         Automatically obtain IP address       0       Use a static IP address         Use a static IP address       192.168.107.118         Subnet mask       265.255.55.0         Default Gateway       192.168.107.254	
SNMP status: 1	SNMP reset enable Reset	Output window [10:02:12] 192.168.107.118 Online successfully. [10:02:35] 192.168.107.118. Wrong password entered. Please retry to logon. [10:06:40] Communication fails. Please check your network. [10:06:43] 192.168.103.55 Online successfully. [10:06:43] 192.168.103.55 Online successfully. [10:06:43] 192.168.103.55 Online successfully. [10:06:43] 192.168.103.55 Online successfully. [10:06:43] 192.168.107.118 Online successfully. [10:01:42] Operation success [10:11:52] 192.168.107.118 Online successfully.	

Diagram 3-19

#### Online upgrade

There are three methods for online upgrade:

- Upgrade the selected devices: It will upgrade all SNMP devices listed on the window.
- Upgrade all un-upgraded devices: It will only upgrade SNMP devices which are not using the same version as current SNMP device is.
- Force to upgrade all devices: No matter what kinds of version are used for SNMP devices listed in the window list, it will upgrade to the version used for current SNMP device. Refer to Diagram 3-20.

SNMP Manager			
System Settings Language Help			
192.168.107.118 60	MAC address 0-19-29-00-44-2E 0-19-29-00-1C-BC	Basic Info       P settings       Online upgrade       System manager       Static trap address         Target file path       F (snmp)DEBUG_0201-08.819       Browse)         O       Upgrade the selected device         Upgrade all un-upgrade devices       Force to upgrade all devices         0%       O%         Upgrade       Cancel	
192.168.107 192.168.103	Scan Add Del	Output Window           [10:02:12]         192.168.107.118 Online successfully.           [10:02:35]         192.168.107.118. Wrong password entered. Please retry to logon.           [10:06:43]         192.168.103.55 Online successfully.           [10:06:43]         192.168.103.55 Online successfully.           [10:06:44]         192.168.107.118 Online successfully.           [10:06:44]         192.168.107.118 Online successfully.           [10:09:37]         Wrong password entered. Please retry to logon.           [10:09:37]         Uperation success           [10:11:52]         192.168.107.118 Online successfully.	

Diagram 3-20

**Step 1:** Click "Browse" button to choose program file. Refer to Diagram 3-21.

B SNMP Manager		
System Settings Language He	lp	
IP address 192.168.107.121	MAC address 00-08-3C-00-F7-1A	Basic Info         IP settings         Online upgrade         System manager         Static trap address           Target file path         D\snmp\DEBUG_0201-09.S19         Browse
SNMP status: 1 192.168.107	SIMP n Simp Simp Add Deli File Name: DEBUG_0201 Files of Type: All Files	-08 S19

Diagram 3-21

**Step 2:** Click "Upgrade" button to execute upgrade action. Refer to Diagram 3-22.

SNMP Manager	
System Settings Language Help	
IP address         MAC address           192.168.103.55         80-19-29-00-44-2E           182.168.107.118         60-19-29-00-1C-BC	Basic Info IP settings Online upgrade System manager Static trap address     Target file path Fishmp\DEBUG_0201-08.519     Upgrade the selected device     Upgrade all un-upgraded devices     Force to upgrade all devices     28%
SNMP status: 1 SNMP reset enable 192.168.107 192.168.103 Add	Reset         Output window           [10:06:40]         Communication fails. Please check your network.
Det	[10:06:43]         192.168.103.55 Online successfully.           [10:06:43]         192.168.103.55 Online successfully.           [10:06:44]         192.168.107.118 Online successfully.           [10:09:37]         Wrong password entered. Please retry to logon.           [10:09:42]         Operation successfully.           [10:11:52]         192.168.107.118 Online successfully.
	[10:16:07]       192:168:107:118: Ready to upgrade for the 1 time.         [10:16:12]       192:168:107:118: Start formatting.         [10:16:17]       192:168:107:118: Upgrading files. Please wait.

Diagram 3-22

**Step 3:** When upgrade is complete, you may check the message in output window. Refer to Diagram 3-23.

SNMP Manager System Settings Language Help		
IP address 192.168.103.55 192.168.107.118 SNMP status: 1	MAC address 80-19-29-00-44-2E 60-19-29-00-1C-BC	Basic Info       IP settings       Online upgrade       System manager       Static trap address         Target file path       FasmptDEBUG_0201-08.819       Browse         Upgrade the selected device       Upgrade devices         Force to upgrade all devices       Force to upgrade all devices         100%       Upgrade
192.168.107 192.168.103	Sfan Add Del	Output window           10.06.43         192.168.103.55 Online successfully.           10.06.43         192.168.103.55 Online successfully.           10.06.44         192.168.103.55 Online successfully.           10.06.44         192.168.107.55 Online successfully.           10.08.47         Vong password entered. Please retry to logon           10.09.42         Operation success           10.11.52         192.168.107.118 Conjunct successfully.           10.16.12         192.168.107.118 Conjunct successfully.           10.16.17         192.168.107.118 Conjunct successfully.           10.16.17         192.168.107.118 Conjunct successfully.           10.16.17         192.168.107.118 Conjunct successfully.           10.16.17         192.168.107.118 Conjunct successfully.           10.16.20         192.168.107.118.Upgradie is completed.

Diagram 3-23

**NOTE:** If abnormal situation occurs during upgrade process, the system will automatically re-start the upgrade operation. If this interruption occurs five times, system will automatically stop this operation. At this time, please check if LAN is working well.

#### System manager

You may modify single password for one SNMP device or all passwords for all SNMP devices. Refer to Diagram 3-24

SNMP Manager		
System Settings Language Help	p .	
IP address	MAC address	Basic Info IP settings Online upgrade System manager Static trap address
192.168.103.55	60-19-29-00-44-2E	
192.168.107.118	60-19-29-00-1C-BC	Password
		Old password
		New password
		Confirm password
		Select device
		O Select all
L		
SNMP status: 1	SNMP reset enable Reset	Apply
		—
192.168.107	Scan	Output window
192.168.103	Add	10:06:431 192.168.103.55 Online successfully.
		[10:06:43] 192.168.103.55 Online successfully.
	Del	[10:06:44] 192.168.107.118 Online successfully.
		[10:09:37] Wrong password entered. Please retry to logon. [10:09:42] Operation success
		[10:11:52] 192:168:107:118 Online successfully.
		[10:16:07] 192.168.107.118: Ready to upgrade for the 1 time.
		[10:16:12] 192.168.107.118: Start formatting. [10:16:17] 192.168.107.118: Formatting is completed.
		[10:16:17] 192.168.107.118: Upgrading files. Please wait.
		[10:16:30] 192.168.107.118: Upgrade is completed.

Diagram 3-24

• Select device: Choose to change password for selected SNMP device on the window

list.

• Select all: Choose to change passwords for all SNMP devices on the window list Enter original password, new password and re-enter new password to confirm. Then, click "Apply" button to apply password change.

**NOTE:** The length of password is 8~15 digits. If this password change is applied for all SNMP devices, all SNMP devices passwords must be consistent.

#### Static trap address

You may configure two static trap addresses and change trap port in SNMP Manager. The default trap port is 162. Refer to Diagram 3-25.

SNMP Manager		
System Settings Language He	lp	
IP address	MAC address	
192.168.103.55	MAC address 60-19-29-00-44-2E	Basic Info IP settings Online upgrade System manager Static trap address
192.168.107.118	60-19-29-00-1C-BC	Trap IP Address Trap com.
		IP address 1 0.0.0 Communication port 162
		IP address 2 0.0.0.0
		Select device
		O Select all
		Apply
SNMP status: 1	SNMP reset enable Reset	
192.168.107	Scan	Output window
192.168.103	Add	10.06.431 192.168.103.55 Online successfully.
		[10:06:43] 192.168.103.55 Online successfully.
		(10:06:44) 192.168.107.118 Online successfully. (10:09:37) Wrong password entered. Please retry to logon.
		[10:09:42] Operation success [10:11:52] 192.168.107.118 Online successfully.
		[10:16:07] 192.168.107.118: Ready to upgrade for the 1 time.
		[10:16:12] 192.168.107.118: Start formatting. [10:16:17] 192.168.107.118: Formatting is completed.
		[10:16:17] 192.168.107.118: Upgrading files. Please wait.
		[10:16:30] 192.168.107.118: Upgrade is completed.

#### Diagram 3-25

**NOTE:** The SNMP device could provide 2 static trap addresses and 8 dynamic trap addresses. The SNMP device will automatically obtain IP address of host machine which installed monitoring software as dynamic trap address. If one of dynamic trap address is inactive for over 10 minutes, SNMP device will automatically release it and obtain a new dynamic trap address.

## 3.4.2.3. Language

SNMP Manager offers 12 languages:

- $\checkmark$  Chinese(Simplified)
- ✓ Chinese(Traditional)

$\checkmark$ English
<b>√</b> German
🗸 Italian
$\checkmark$ Polish
$\checkmark$ Portuguese
√ Russian
$\checkmark$ Spanish
$\checkmark$ Turkish
🗸 Ukrainian
√ French

The default language setting would be English.

## 3.4.2.4. Help

**About**: Click "Help" menu and select "About" item. It represents the copyright information about software

## 3.5. Open Monitor

Click "Open Monitor" to open the monitoring webpage of WatchPower.

#### 3.6. Icon and Software Status

- Connecting devices: 🗾 and 💹 will rotate as an animation
- When receiving event message with devices connected: **Z** will flash for reminder
- When receiving event message without devices connected: will flash for reminder

#### 3.7. Message Board

Users can check message board for event list. Refer to Diagram 3-26:



Diagram 3-26

## 3.8. Exit

Click "Exit" to exist monitor application.

## 4. GUI Interface

There are five sections in GUI interface as marked in the illustration below:

WatchPower		_							. 🗆 🔀
WatchPower configuration Device control	View Language Help 🗛								
	Guest Monitored device: C	COM4_76543210987	654 D						
📡 xuan-zhaoyou-nb.vcn.vol.corp				sic information					
	B         Guest         Monitored device:         COM4_76543210987654         D           p         sic information								
с				E AC fr			Output frequency:		
C C				PV inpu	it voltage:		Output apparent power:	frequency: 500 Hz ent power: 230 VA twe power: 20 W ad percent: 0 % the frequency: 500 Hz tput current: 21.7 A arent power: 5000 VA	
		Inverter		Batter	y voltage:		Output active power:		
			Source: Batterv	Battery	capacity:		Load percent:		
		<b></b> +)		Duttery Discharge					
				•			111		P
	Product Information								
	Model type:	Stand alone		Nominal AC voltage:			Nominal output frequency:		
		transformerless							
	Main CPU version:	00012.27		Rated battery voltage:			ninal output apparent power:		
	Secondary CPU version:			Nominal output voltage:			Iominal output active power:		

#### 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. Inverter Navigation indicates all devices.

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

**E. Main Window** displays power flow, operation information, device information and rated information of current monitored inverter. Refer to Diagram 4-2.

X WatchPower					_	_			
WatchPower configuration Device control Vi	iew Language Help								
🛒 🖾 🛋 🕵	Guest Monitored device	e: COM6_55355535553557							
😥 localhost				Basic information					
⊂		Battery Mode		AC voltage:			Battery discharge current:		A
							Output voltage:		v
		2	PV input voltage:			Output frequency:			
		werter					Output apparent power:		
		Source: Battery		Battery voltage:	49.7		Output active power:		
	=	<b>-</b> + ()		Battery capacity:					
				Charging current: 0.0					
Product	Information	Rated information							
	Model type: Stand alone			V Nominal output freque			50.0		
		ansformeriess	Isformerless Nominal A				Nominal output current:	21.7	
	Main CPU version: 00	0012.30	Rated batte	ry voltage: 48.0			Nominal output apparent power:	5000.0	
	Secondary CPU version: 00	000.00	Nominal outp	ut voltage: 230.0			Nominal output active power:	4000.0	
									ī

Diagram 4-2

#### 1. Power flow:

There are five device icons: solar panel, battery, inverter, load and the utility. It displays dynamic power flow with these five device icons.

Power on and Standby mode: Inverter won't power the load until "ON" switch is pressed. Qualified utility or PV source can charge battery in standby mode.





## **Standby Mode**

Line mode: Inverter will power the load from utility. Qualified utility or PV source can charge battery.



Line Mode

Battery mode: Inverter will power the load from battery or PV panel. Only PV source can charge battery.



## **Battery Mode**

Fault mode: Some faults occurred in inverter and no power output is generated from inverter. Qualified utility or PV source still can charge battery.



Fault Mode

2. Basic Information:

It displays information of AC voltage, AC frequency, PV input voltage, Battery voltage, Battery capacity, Charging current, Output voltage, Output frequency, Output apparent power, Output active power and Load percent.

3. Product information:

Product information displays Mode type, Topology, Main CPU version and Secondary CPU version.

4. Rated information:

Rated information displays information of Nominal AC voltage, Nominal AC current,

Rated battery voltage, Nominal output voltage, Nominal output frequency, Nominal output current, Nominal output apparent power and Nominal output active power.

## 4.1. WatchPower Configuration

## 4.1.1. Basic

It is to set up parameters for display. Select WatchPower Configuration>>Basic. Refer to Diagram 4-3.

Basic			
Page refresh interval:	2 🗘	Sec.	
Device scan interval:	5 🌲	Sec.	
Record interval:	60 👙	Sec.	
Date format:	YYYY-MM-D	D 🔻	
			Apply Close

#### Diagram 4-3

- 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. Devices scan interval: This interval time will determine how long to scan connected devices. The setting range is from 5 to 600 seconds. The default setting is 5 seconds.
- 3. Record interval: This interval time will determine how long to record monitoring data of inverters 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.
- 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".

If any change is made, simply click "Apply" button. 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 inverter status and information as Guest without login as an Administrator. A guest can not control or execute any setting.

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

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

Diagram 4-4

**Step 2** Enter old password, new password and re-type new password to confirm new password. The new 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 to enter SMS receiver list. In the event of an alarm occurring, a message about inverter status will be sent to the specified users via mobile phone. For the event receiving list, please configure in "Event Action" page (refer to section 4.1.5).

<u> </u>	~		<b>•</b> • • •		<b></b>		<u> </u>
Step 1	Choose	WatchPower	Configuration	>>	SMS Setting	g. Refer to	Diagram 4-5.

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

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 make sure all setting is correct. 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:	сомз
Baud rate:	9600 🖵
Receivers list:	Test was successful
Note:	Click "Test" button to checkif the transmission is successfully
	Apply Close

Diagram 4-6

SMS Setting	
	Com. port setting
	Cont. port setting
Com. port:	СОМЗ
Baud rate:	9600
	Error 🔤 🔀
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 a GSM modem if sending a SMS to mobile phone.

## 4.1.4. E-mail

This configuration is allowed to send an alarm mail from SMTP server. For the event receiving list, please configure in "Event Action" page (refer to section 4.1.5). To use this function, the e-mail service must be correctly configured in the computer. All columns in this function page are default empty. This action can't be executed without the SMTP information, e-mail account and password. Besides, the sender account should be allowed for SMTP/POP3 forwarding.

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

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

Diagram 4-8

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

- Step 3 Enter receivers' 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 personal computer. 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. It provides four 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 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 WatchPower 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 acti	on				🔀
ID	Level	Event			
1001	Fault	Fan locked fault			
1002	Fault	Battery voltage high fault		Send by:	Event record
1003	Fault	Over load fault			🖌 Warning message(s)
2001	Fault	Bus Over			E-mail
2002	Fault	Bus Under			
2003	Fault	Bus Soft Fail			
2004	Warning	LINE_FAIL			
2005	Warning	OPVShort			
2006	Fault	Inverter voltage too low			
2007	Fault	Inverter voltage too high		- - -	Phone No.
2008	Fault	Over temperature			
2009	Warning	Fan locked alarm			
2010	Warning	Battery voltage high alarm			
2011	Warning	Battery low alarm			
2013	Warning	Battery under shutdown			
2014	Warning	Battery de-rating			
2015	Warning	Over load alarm			
2016	Warning	Eeprom fault			Apply Close
3001	Message	Communication restore	-		

#### Diagram 4-9

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

## 4.1.6. Com. port Plug And Play Setting

To real-time monitor inverter device, it will scan each com. port anytime. In this way, it will occupy communication ports. This function will release some communication ports which are not connected with devices. To avoid any improper operation, in-used communication ports will be displayed in disabled grey icons. Users can select "Allow scanned" to re-scan or "No scanning" to release communication ports based on requirements.

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



#### Diagram 4-10

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

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

## 4.1.7. Modbus Serial Setting

This function is to set Modbus communication port with PCs that connected to Modbus card via RS232/RS485 converter. The settings include Modbus port, Baud rate, data bit, stop bit, parity and each Device ID in Modbus network.

- **Step 1** Select WatchPower configuration>> Modbus serial setting. Refer to Diagram 4-11.
- **Step 2** Select Modbus port to connect PC.
- **Step 3** Select "Device ID" of connected inverter in Modbus network.
- **Step 4** Select "Baud rate" of com. port. The default setting is 19200.
- **Step 5** Modify "Data bit" of com. port. The default setting is 8.
- **Step 6** Modify "Stop bit" of com. port. The default setting is 1.

- **Step 7** Modify "Parity". The default setting is NONE.
- **Step 8** Click "Apply" button to save all changes.

Modbus serial set	ting	
Modbus port	сомз 🔽	Refresh
Device ID	1	Apply
Baud rate	19200 🔽	Close
Data Bit	8 🗖	
Stop Bit	1	
Parity	NONE	

Diagram 4-11

- **NOTE1:** Click "Refresh" button to refresh the port list.
- **NOTE2:** WatchPower supports multiple com. ports in multiple Modbus networks.
- **NOTE3:** All configurations will be changed based on different port selection in Step 2.
- **NOTE4:** The default device ID of inverter is 1.
- **NOTE5:** If none of device ID is selected, it will be identified as not connecting with any Modbus network.
- **NOTE6:** If monitoring multiple Modbus networks, please repeat from step 2 to step 7 to set all ports.

## 4.2. Device control

## 4.2.1. Parameter Setting

This page is to activate some features and set up parameters for inverters.

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

ameters setting									_
Buzzer ala	arm: 💿 Enable 🔿 Disable 🛕	ply		Po	ower saving mode:	O Enable	• •	isable	Apply
Over temperature auto res	tart: 🔘 Enable 💿 Disable 🛕	ply	LCD s	creen returns to default display s	creen after 1 min.:	• Enable	0 0	isable	Apply
Overload bypa	ass: 🔘 Enable 🖲 Disable 🛕	ply		Beeps while prima	ry source interrupt:	● Enable	0 0	isable	Apply
Overload auto res	tart: 🔿 Enable 💿 Disable 🗛	ply		So	lar power balance:	🖲 Enable	0 0	isable	Apply
Backli	ight: 🔍 Enable 🔿 Disable 🗛	iply]			Fault code record:	O Enable	• •	isable	Apply
Charger source priority:	Solar only		Apply	Max. charging current:			•		Apply
Output source priority:	Utility		Apply	Max. AC charging current:	20		•		Apply
AC input range:	Appliance		Apply	Back to discharge voltage:	52.0		•		Apply
Battery type:	User		Apply	Output voltage:	230		-		Apply
Output Mode:	Parallel		Apply	Charging stage:	Auto		•		Apply
Output frequency:	50	Hz	Apply	Charging time in CV mode:	000	_	-	Min	Apply
Back to grid voltage:	46.0	V	Apply						
Bulk charging voltage(C.)	V. voltage): 58.4 🗧 V App	y)		Max. (	charging time(C.V. st	age): 1	20 🌲	Min	Apply
Float chargi	ng voltage: 54 🗧 V 🗛 🛛	y)			Battery cut-off vol	tage:	42 🌲		Apply
									Close



**NOTE:** This screen may be different for different model of inverter.

- Step 1 Activate/Shut down functions by clicking "Enable" or "Disable" button. Some parameters are allowed to 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 disabled, buzzer won't be on when alarm/fault occurred. Vice versa.
- Power saving mode: If disabled, output will be on continuously when device is operated in battery mode. If enabled, inverter output will be on or off depending on connected loads detected or not. If the load is not detected, the output of inverter will be off until load reaches a certain level. Check product manual for more details.
- Backlight: If disabled, LCD backlight will be off when panel button is not operated for 1 minute. Vice versa.
- Overload auto restart: If disabled, the unit won't be restarted after overload occurs. Vice versa.
- Over temperature auto restart: If disabled, the unit won't be restarted after over-temperature fault is solved. Vice versa.
- Beeps while primary source interrupt: If enabled, buzzer will alarm when primary

source is abnormal. Vice versa.

- Overload bypass: If enabled, unit will transfer to line mode when overload happened in battery mode. Vice versa.
- LCD screen returns to default display screen after 1 min.: If enable, LCD screen will return to default display screen after no button is pressed in one minute. Vice versa.
- Solar power balance: This function is only available for 4KVA/5KVA models. When enabled, solar input power will be automatically adjusted according to connected load power. If disabled, solar input power will be the same to max. battery charging power no matter how much loads are connected.
- Fault code record: If enabled, fault code will be recorded in the inverter when any fault happens.
- Charger source priority: Click up-down arrows to set up charger source priority. There are 4 options: utility first, solar first, solar and utility and Solar only. See product manual for the details of these options. Refer to Diagram 4-13.

Parameters setting	
Buzzer alarm: 💿 Enable 🔿 Disable 🛕	Power saving mode: 🔿 Enable 💿 Disable 🗛 Apply
Over temperature auto restart: 🔿 Enable 💿 Disable 🔥	LCD screen returns to default display screen after 1 min.:    Enable O Disable Apply
Overload bypass: 🔿 Enable 💿 Disable 🔥 Apply	Beeps while primary source interrupt. 💿 Enable 🔿 Disable 🙏
Overload auto restart. 🔿 Enable 💿 Disable 🔥 Apply	Solar power balance: 💿 Enable 🔿 Disable 🔼
Backlight 💿 Enable 🔘 Disable <mark>Apply</mark>	Fault code record: 🔘 Enable 🔍 Disable Apply
Charger source priority: Solar only	Apply Max. charging current 10 🗖 A Apply
Output source priority: Utility and Solar	Apply Max. AC charging current: 20
Utility AC input range: Solar first	Apply Back to discharge voltage: 52.0 V Apply
Utility and Solar Battery type: Solar only	Apply Output voltage: 230 V Apply
Output Mode: Parallel	Apply Charging stage: Auto
Output frequency: 50 H:	: Apply Charging time in CV mode: 000 Min Apply
Back to grid voltage: 46.0 🔽 V	Apply
Bulk charging voltage(C.V. voltage): 58.4 🗮 V Apply	Max. charging time(C.V. stage): 120 🚽 Min Apply
Float charging voltage: 54 🗧 V Apply	Battery cut-off voltage: 42 📮 V Apply
	Close

Diagram 4-13

• Output source priority: Click up-down arrows to set up output source priority. There are 3 options: utility first, solar first and SBU. See product manual for the details of these options. Refer to Diagram 4-14.

Parameters setting						
Buzzer alarm: 🔍	Enable O Disable Apply		Po	ower saving mode: 🔘 Enable	e 🖲 Disab	e Apply
Over temperature auto restart: 🛛 🔘	Enable 💿 Disable <u>Appl</u>	LCD s	screen returns to default display s	creen after 1 min.: 💿 Enable	e 🔿 Disab	e Apply
Overload bypass: 🔘	Enable 💿 Disable Apply		Beeps while prima	ny source interrupt: 💿 Enable	e 🔿 Disab	e Apply
Overload auto restart: 🛛	Enable 💿 Disable Apply		So	lar power balance: 💿 Enable	e 🔿 Disab	e Apply
Backlight: O	Enable 🔿 Disable Apply			Fault code record: 🔿 Enable	e 🖲 Disab	e Apply
Charger source priority: Solar onl	ly 💌	Apply	Max. charging current:		▼ A	Apply
Output source priority: Utility		Apply	Max. AC charging current:		▼ A	Apply
AC input range: <mark>Solar</mark>		Apply	Back to discharge voltage:	52.0	<b>v</b>	Apply
Battery type: SBU		Apply	Output voltage:	230	▼ V	Apply
Output Mode: Parallel	-	Apply	Charging stage:	Auto	-	Apply
Output frequency: 50	-	Hz Apply	Charging time in CV mode:	000	💌 Min	Apply
Back to grid voltage: 46.0	-	V Apply				
Bulk charging voltage(C.V. voltage	e): 58.4 🗧 V Apply		Мах. і	charging time(C.V. stage):	120 🗧 Mi	n Apply
Float charging voltage	ie: 54 🖶 V Apply			Battery cut-off voltage:	42 🗧 V	Apply
						Close

#### Diagram 4-14

 AC input range: Click up-down arrows to set up suitable input range for connected devices. When selecting "Appliance", it's allowed to connect home appliances. When selecting "UPS", it's allowed to connect personal computer. For the detailed input range for connected devices, please check product manual. Refer to Diagram 4-15.

Parameters setting				
Buzzer alarm: <ul> <li>Enable</li> <li>Disable</li> </ul> Apply	Pc	ower saving mode: 🔿 Enable (	● Disable <mark>Ap</mark>	ply
Over temperature auto restart: 🔿 Enable 🔍 Disable 🔒	LCD screen returns to default display s	creen after 1 min.: 💿 Enable (	🔿 Disable  Ap	vlq
Overload bypass: 🔿 Enable 🔍 Disable Apply	Beeps while prima	ry source interrupt: 💿 Enable 🤇	🔿 Disable 🔼	yly
Overload auto restart: 🔿 Enable 🔍 Disable Apply	Sol	larpowerbalance: 💿 Enable (	🔿 Disable 🔼	ply
Backlight: O Enable O Disable Apply		Fault code record: 🔘 Enable (	● Disable <mark>Ap</mark>	ply
Charger source priority: Solar only	Apply Max. charging current:		🕶 A 🔼 Ap	oly
Output source priority: Utility	Apply Max. AC charging current:	20	🕶 A 🛛 Apr	oly
AC input range: Appliance	Apply Back to discharge voltage:	52.0	V Ap	oly
Appliance Battery type: UPS	Apply Output voltage:	230	V Apr	oly
Output Mode: Parallel 🔍	Apply Charging stage:	Auto	Ap	oly
Output frequency: 50 Hz	Apply Charging time in CV mode:	000	💌 Min 🗛	oly
Back to grid voltage: 46.0 V	Apply			
Bulk charging voltage(C.V. voltage): 58.4 🗧 V Apply	Мах. с	harging time(C.V. stage): 12	20 🗧 Min 🗛	ply
Float charging voltage: 54 🐺 V Apply		Battery cut-off voltage: 4	2 🗧 V 🛛 Ap	yly
				Close

- Battery type: Select connected battery type. There are three options: AGM, Flooded and User. Please refer to product manual for charging parameter for these three battery types.
- Output mode: In this setting, the options will be different based on different inverter models. Refer to Diagram 4-16.

Parameters setting						_	
Buzzer al	larm: 🔍 Enable 🔿 Disable 🔼	ly		ower saving mode: 🛛 Er	nable 💿 Di	sable	Apply
Over temperature auto re	start: 🔘 Enable 🖲 Disable  App	ly]	LCD screen returns to default display	screen after 1 min.: 🔍 Er	iable 🔿 Di	sable	Apply
Overload byp	oass: 🔘 Enable 🖲 Disable <u>App</u>	ly]	Beeps while prima	ary source interrupt: 🔍 Er	nable 🔿 Di	sable	Apply
Overload auto re	start: 🔘 Enable 🖲 Disable  App	ly	Sc	olar power balance: 🌘 Er	nable 🔿 Di	sable	Apply
Back	light: 🔍 Enable 🔿 Disable 🔼 App	ly]		Fault code record: 🔿 Er	nable 💿 Di	sable	Apply
Charger source priority:	Solar only	A	pply Max. charging current:		-		Apply
Output source priority:	Utility	A	pply) Max. AC charging current:	20	•		Apply
AC input range:	Appliance 🔽	A	pply] Back to discharge voltage:	52.0	•		Apply
Battery type:	User 🔽	A	pply) Output voltage:	230	-		Apply
Output Mode:	Single 🔽	A	pply Charging stage:	Auto	-		Apply
Output frequency:	Single Parallel	Hz 🔼	Charging time in CV mode:	000	-	Min	Apply
Back to grid voltage:	Phase R of 3 phase output Phase S of 3 phase output	V A	<u>ylaa</u>				
Bulk charging voltage(C.)	Phase T of 3 phase output /. voltage): 56.5 V Apply		Max.	charging time(C.V. stage):	120 🖨	Min	Apply
Float chargir	ng voltage: 54 📮 V [ Apply]			Battery cut-off voltage:	42 🖨		Apply
							Close

Diagram 4-16

- Single: This inverter is set for singe operation.
- Parallel: This inverter is set for parallel operation.
- Phase R of 3 phase output: This inverter is set to support connected loads in phase R of 3 phase output.
- Phase S of 3 phase output: This inverter is set to support connected loads in phase S of 3 phase output.
- Phase T of 3 phase output: This inverter is set to support connected loads in phase T of 3 phase output.
- Output frequency: Nominal output frequency, 50Hz and 60Hz selectable.
- Back to grid voltage: Click arrow to set up low battery voltage point. If "SBU" is selected in output source priority, the inverter will transfer output source to grid when battery voltage drop to low battery voltage point.
- Max. charging current: Click arrow to set up maximum charging current. Maximum charging current in different inverter model may be different. Please refer to

product manual for the details.

- Max. AC charging current: Click arrow to set up AC charging current. For the detailed setting, please check inverter manual.
- Back to discharge voltage: When battery voltage is higher than this setting voltage, battery will be allowed to discharge.
- Output voltage: Click arrow button to select output voltage in battery mode.

Parameters setting	
Buzzer alarm: 💿 Enable 🔘 Disable [Apply]	Power saving mode: O Enable O Disable Apply
Over temperature auto restart: 🔘 Enable 💿 Disable 🔒	LCD screen returns to default display screen after 1 min.: 💿 Enable 🔘 Disable [Apply]
Overload bypass: 🔘 Enable 🔘 Disable 🔒	Beeps while primary source interrupt. 💿 Enable 🔘 Disable [Apply]
Overload auto restart: 🔘 Enable 🔘 Disable [ Apply]	Solar power balance: 💿 Enable 🔘 Disable [Apply]
Backlight 🔍 Enable 🔿 Disable Apply	Fault code record: 🔘 Enable 🔘 Disable [ Apply]
Charger source priority: Solar only	Apply Max. charging current: 10 🔽 A Apply
Output source priority: Utility	Apply Max. AC charging current: 20 🔽 A Apply
AC input range: Appliance	Apply Back to discharge voltage: 52.0 V Apply
Battery type: User 🔽	Apply Output voltage: 220 V Apply Apply
Output Mode: Parallel 🔽	Apply Charging stage: 230 Apply Apply 240
Output frequency: 50 Hz	Apply Charging time in CV mode: 000 Min Apply Min Apply
Back to grid voltage: 46.0 🔽 V	Apply
Bulk charging voltage(C.V. voltage): 56.5 🗧 V Apply	Max. charging time(C.V. stage); 120 🚔 Min Apply
Float charging voltage: 54 🚽 V Apply	Battery cut-off voltage: 42 V Apply
	Close

- Charging stage: Click arrow to select charging stage. Please set up based on the battery type, specification and capacity.
  - Auto: It's determined by inverter itself according to battery capacity.
  - 2-stage: constant current mode  $\rightarrow$  floating mode
  - 3-stage: constant current mode  $\rightarrow$  constant voltage mode  $\rightarrow$  floating mode

neters setting		_	_				_	_
Buzzer a	alarm: 💿 Enable 🔿 Disable	Apply		 Po	wer saving mode:	O Enable	🖲 Disabl	e Apply
Over temperature auto r	estart: 🔘 Enable 🔍 Disable	Apply	LCD so	creen returns to default display s	creen after 1 min.:	Enable	🔿 Disabl	e Apply
Overload by	pass: 🔿 Enable 💿 Disable	Apply		Beeps while prima	y source interrupt:	🖲 Enable	🔿 Disabl	e Apply
Overload auto n	estart: 🔘 Enable 💿 Disable	Apply		Sol	ar power balance:	🖲 Enable	🔿 Disabl	e Apply
Bac	klight: 💿 Enable 🔿 Disable	Apply			Fault code record:	O Enable	🖲 Disabl	e Apply
Charger source priority:	Solar only	-	Apply	Max. charging current:			▼ A	Apply
Output source priority:	Utility	•	Apply	Max. AC charging current:	20		▼ A	Apply
AC input range:	Appliance	-	Apply	Back to discharge voltage:	52.0		<b>v</b>	Apply
Battery type:	User	-	Apply	Output voltage:	230		▼ ∨	Apply
Output Mode:	Parallel	-	Apply	Charging stage:	Auto Auto		-	Apply
Output frequency:	50	▼ Hz	Apply	Charging time in CV mode:	2-stage 3-stage		Min	Apply
Back to grid voltage:	46.0	▼ ∨	Apply					
Bulk charging voltage(C	V. voltage): 56.5 🗧 V 🗛	ply		Max. c	harging time(C.V. s	stage): 1	20 🗧 Mir	Apply
Float charg	ng voltage: 54 📮 V 🗛	ply			Battery cut-off v	oltage:	42 🗧 V	Apply
								Clo

## Diagram 4-18

- Charging time in CV mode: Click arrow to setup charging duration in constant voltage mode. Please set up based on the battery type, specification and capacity.
  - Auto: It's determined by inverter itself according to battery capacity.

neters setting							
Buzzer al	larm: 💿 Enable 🔿 Disable	Apply	Pc	wer saving mode:	🔘 Enable 🤇	) Disable	Apply
Over temperature auto re:	start: 🔿 Enable 💿 Disable	Apply	LCD screen returns to default display s	creen after 1 min.:	• Enable 🤇	) Disable	Apply
Overload byp	oass: 🔿 Enable 💿 Disable	Apply	Beeps while prima	ry source interrupt:	• Enable (	) Disable	Apply
Overload auto re:	start: 🔿 Enable 💿 Disable	Apply	Sol	lar power balance:	● Enable 🤇	) Disable	Apply
Back	dight: 🖲 Enable 🔘 Disable	Apply		Fault code record:	🔿 Enable 🕻	) Disable	Apply
Charger source priority:	Solar only	-	Apply. Max. charging current:			<b>▼</b> A	Apply
Output source priority:	Utility	-	Apply Max. AC charging current:	20		▼ A	Apply
AC input range:	Appliance	•	Apply Back to discharge voltage:	52.0		▼ ∨	Apply
Battery type:	User	-	Apply Output voltage:	230		• V	Apply
Output Mode:	Parallel	<b>•</b>	Apply Charging stage:	Auto		•	Apply
Output frequency:	50	➡ Hz	Apply Charging time in CV mode:	090 060		▼ Min	Apply
Back to grid voltage:	46.0	▼ ∨	Apply	090 120			
Bulk charging voltage(C.V	/. voltage): 56.5 🖨 V 🗛	yly	Max. o	150 180		E Min	Apply
Float chargin	ng voltage: 54 🖨 V 🛕	ibla)		210 240 _Auto		<b>v</b>	Apply
				- L			Clo

Parameters setting							X
Buzzer alarm:	: 🖲 Enable 🔿 Disabl	e Apply	Pc	wer saving mode:	O Enable 🖲	Disable	Apply
Over temperature auto restart:	: 🔘 Enable 🖲 Disabl	e Apply	LCD screen returns to default display s	creen after 1 min.:	● Enable C	Disable	Apply
Overload bypass:	: 🔘 Enable 🖲 Disabl	e Apply	Beeps while prima	ry source interrupt:	🖲 Enable 🔘	Disable	Apply
Overload auto restart:	: 🔘 Enable 🖲 Disabl	e Apply	Sol	ar power balance:	🖲 Enable 🔘	Disable	Apply
Backlight	: 💿 Enable 🔿 Disabl	e Apply		Fault code record:	🔿 Enable 🖲	Disable	Apply
Charger source priority: Sola	ar only	App	Max. charging current:			A	Apply
Output source priority: Utili	ity	App	Max. AC charging current:	20		A	Apply
AC input range: App	pliance	- App	Back to discharge voltage:	52.0		V	Apply
Battery type: Use	er	T App	Output voltage:	230		V	Apply
Output Mode: Para	rallel	App	Charging stage:	Auto		-	Apply
Output frequency: 50		Hz App	Charging time in CV mode:	000		Min	Apply
Back to grid voltage: 46.0	0	V App	aly				
Bulk charging voltage(C.V. vo	oltage): 58.4 📮 V	Apply	 Max. c	harging time(C.V. s	stage): 120	🗧 Min	Apply
Float charging v	voltage: 54 🖶 V	Apply		Battery cut-off vo	oltage: 42	🗧 v	Apply
							Close

- Bulk charging voltage (C.V. voltage): Click arrow to set up bulk charging voltage.
   Please refer to product manual for the recommended bulk charging voltage based on connected battery type.
- Float charging voltage: Click arrow to set up float charging voltage. Please refer to product manual for the recommended float charging voltage based on connected battery type.
- Max. charging time (C.V. stage): Click arrow to set up maximum charging time for C.V. stage. The setting range is from 000 to 900. 000. If 000 is selected, the charging time will depend on the device itself.
- Battery cut-off voltage: In battery mode, when battery voltage is lower than cut-off voltage point, inverter will shut down battery and transfer to fault mode.

**Battery equalization setting:** This section is only active for some inverters with battery equalization function.

Parameters setting	
Buzzer alarm: • Enable O Disable Apply	- Beeps while primary source interrupt: 🌑 Enable 🔿 Disable 🔼
Backlight: O Enable O Disable Apply	Overload bypass: O Enable O Disable Apply
Overload auto restart: 🔘 Enable 🌑 Disable Apply	LCD screen returns to default display screen after 1 min.: 💿 Enable 🔘 Disable [Apply]
Over temperature auto restart: 🔘 Enable 🌒 Disable 🔒	Fault code record: 💿 Enable 🔘 Disable 🔼
Charger source priority: Utility and Solar	Apply Back to grid voltage: 46.0 V Apply
Output source priority: Solar	Apply Max. charging current. 50 💌 A Apply
AC input range: Appliance 🔽	Apply Max. AC charging current: 30 💌 A Apply
Battery type: User 🔽	Apply Back to discharge voltage: 54.0 V Apply
Output frequency: 50 Hz	Apply
Bulk charging voltage(C.V. voltage): 56.4 💭 V Apply	Battery cut-off voltage: 42 🗧 V Apply
Float charging voltage: 54 🗧 V Apply	
Battery equalization setting	
Battery equalization:	Real-time activate battery equalization: 💿 Activate 🔘 Cancel Apply
Equalization time: 60 Min Apply	Equalization voltage: 58 V Apply
Equalization period: 25 Day(s) Apply	Equalization timeout: 105 🖨 Min Apply
	Close

Diagram 4-21

- Battery equalization: Enable or disable battery equalization function. It's necessary to enable this function in software before executing this function in device.
- Equalized time: Click up-down arrow to set up duration time for battery equalization. The setting range is 5~900 minutes.
- Equalized timeout: Click up-down arrow to set up the extended time to continue battery equalization. The setting range is 5~900 minutes.
- Equalization period: Click up-down arrow to set up the frequency for battery equalization. The setting range is 0~90 days. When 0 is selected, it means this function is activated every 24 hours.
- Real-time activate battery equalization: It's real-time action to activate battery equalization by selecting "Activate". Select "Cancel" to stop equalization immediately.
- Equalization voltage: Click up-down arrow to set up the battery equalization voltage. The setting range is 48.0V ~ 61.0V for 5KVA device and 25.0V ~ 31.5V for 3KVA device.

## 4.2.2. Restore to the defaults

This function is allowed to restore all settings back to default values.

```
Select Device control >> Restore to the defaults. Refers to Diagram 4-22.
```

Restore to the defaults			_
AC output frequency:	50.0	Hz Output source priority:	Utility
Max. charging time(C.V. stage):	Auto	Min Charger source priority:	Utility and Solar
Bulk charging voltage(C.V. voltage):	56.4	V Battery type:	AGM
Float charging voltage:	54.0	V Enable/disable silence buzzer or open buzzer:	Disable
Max. charging current:	60	A Enable/Disable power saving:	Disable
Max. AC charging current:	30	A Enable/Disable overload restart:	Disable
Battery cut-off voltage:	42.0	V Enable/Disable over temperature restart:	Disable
Back to discharge voltage:	54.0	V Enable/Disable LCD backlight on:	Enable
Back to grid voltage:	46.0	V Enable/Disable alarm on when primary source interrupt:	Enable
Output Mode:	Single	Enable/Disable LCD screen returns to default display screen after 1 min:	Enable
AC input voltage range:	Appliance	Enable/Disable overload bypass:	Disable
This operation wil	II also clear all exis Restore to the de	ted data stored here, and shall be used cautiously. faults	
			Close

## Diagram 4-22

**NOTE:** This screen may be different for different model of inverter.

#### 4.3. View

## 4.3.1. Data

This function is to browse the working data of inverter saved in table or chart format.

• Datasheets



Select View >>Data>>Datasheets or click shortcut icon . Refer to Diagram 4-23. Select browsed device and period to display in the screen. Click "Browse" to get result.

- > "**Print**": Print the listed data table.
- > "Delete": Select specific data and click "Delete" button to delete the record.
- > "Delete all": Click "Delete All" button to delete all records in the listed table.
- > **"Export":** Click "Export" button to save listed table to local PC in .PDF file.
- "Export Excel": When selected and click "Export", it will save listed table to local PC in .xls file.

evice: 55	53555355	53555 🗖	Display	ritem: 📘	Device n	node 🔻	Time pe	riod: 2015		2015-12-	16	🛗 🖪 Bro	wse) 🔲	Export Exce		
evice m		AC voltage												Total Out		
	2015-12						52.0	44.1					2.0			0.0
	2015-12						26.0						3.0			0.0
	2015-12						16.0									0.0
	2015-12						55.0						3.0			0.0
	2015-12				-		4.0	44.1					3.0			0.0
ine Mode	2015-12	232.9	49.98	0.0		69.0	16.0	44.2	0.0	0.0	232.9	49.98	3.0	207.0	50.0	

Diagram 4-23

## • Charts

Select View >>Data>>Charts. Refer to Diagram 4-24.

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



Diagram 4-24

## 4.3.2. Event log

Select View >>Event log or click shortcut icon



to enter event log.

It's to browse history events according to time duration selected. It lists all detailed information and statistics for history events. Refer to Diagram 4-25.

- > "**Delete**": Select specific data and click "Delete" button to delete the record.
- > "Delete all": Click "Delete All" button to delete all records in the listed table.
- > **"Export":** Click "Export" button to save listed table to local PC in .PDF file.
- "Export Excel": When selected and click "Export", it will save listed table to local PC in .xls file.

ID	Level	Time	Event		Level	Event	Number of time
D01	Message	2012-08-30 14:14:24	Communication restore	3001	Message	Communication restore	5
D02	Message	2012-08-30 14:08:26	Communication lost	3002	Message	Communication lost	4
D01	Message	2012-08-30 14:05:39	Communication restore				
D02	Message	2012-08-30 14:04:06	Communication lost				
D01	Message	2012-08-30 14:04:06	Communication restore				
D02	Message	2012-08-30 14:03:28	Communication lost				
D01	Message						
D02	Message	2012-08-30 14:00:31	Communication lost				
D01	Message	2012-08-30 13:59:39	Communication restore				
				Number of times			4
			Export Delete De	elete all		3001 ID	3002

Diagram 4-25

## 4.3.3. Fault data log

Select View >>Fault data log .Refer to Diagram 4-26.

It's to record the latest fault event occurring on the inverter.

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

Input date	Fault message	Device mode			PV input v	PV input cur					.Chargin				
015-03-04 14:10:59	CAN communication failed	Fault Mode	0.0	0.0	0.0	0	0.0	0.0	49.4	72	0.0	0	0.0	0.0	
															Í

Diagram 4-26

## 4.4. Log in and Log out

This short cut icon  $\mathbb{M}$  is to display the <u>login</u> status. When icon  $\mathbb{M}$  is displayed, it

means user status is guest. When icon **Marcon** is displayed, it means user logins as administrator.

Click icon and enter password to login the software. The default password is "administrator". Refer to Diagram 4-28.

3 WatchPower						
WatchPower configuration Device control View Help						
Guest Monitored device: Cr						13
😡 jia-yi-nb		Basic information				
Сом1_553555355535	Line Mode	AC voltage:		Output voltage:		v
		AC frequency:	50.0 Hz	Output frequency:	50.0	Hz
		PV input voltage:		Output apparent power:		VA
	Inverter	Battery voltage:		Output active power:		w
	Course: Litility	Battery capacity:				%
		ging current:				
Sou	Password:					
	Login Clear					
Product Information						
Model type:	Stand alone	Nominal AC voltage: 230.0		Nominal output frequency:		Hz
Topology:	transformer	Nominal AC current 4.3		Nominal output current:	4.3	A
Main CPU version:	00009.00	Rated battery voltage: 12.0		Nominal output apparent power:		VA
Secondary CPU version:	00001.04	Nominal output voltage: 230.0		Nominal output active power:		w

Diagram 4-27

Click icon to log out. Then, the status will become to "guest". Refer to Diagram 4-27.

MatchPower								
WatchPower configuration Device control View	iew Help							
🔄 🗳 🔤 🚺 🥵	Administrator Monitored de							
🔰 jia-yi-nb	_			-Basic informati	on			
			Line Mode		ltage: 230.0	Output voltage:		v
					ency: 50.0	Output frequency:		Hz
	- 🥏 🥤			PV input vo	ltage: 12.6	Output apparent power:		VA
		Inverter		Battery vo	ltage: 12.87	Output active power:		w
				Battery cap				%
		Logout		Charging cu				
		<mark>—</mark> ? Уоц	u are going to logout, a	e you sure?				
:		irce:	Yes() No(N)					
	roduct Information			 Rated information				
		Stand alone		Nominal AC voltage:	230.0 V	Nominal output frequency:	50.0	Hz
		transformer		Nominal AC current:	4.3 A	Nominal output current:		A
	Main CPU version:			Rated battery voltage:	12.0 V	Nominal output apparent power:		
	Secondary CPU version:			Nominal output voltage:	230.0 V	Nominal output active power:		
	Secondary CFO Version.	00001.04		Norminal output voltage.		Norminar output active power.		

Diagram 4-28

## 4.5. Rename

It's to rename devices from inverter navigation list. Serial number of devices will not be changed.

"Rename": Double click the device. Then right click the mouse and choose "Rename".



At this time, you may modify the device name.



After entering new name, be sure to press "Enter" keyboard to activate the new name.



"Restore": Select one device and right click the mouse. Select "Restore". Then, the selected device name will be restored to default name.



"Restore All": Select one device and right click the mouse. Select "Restore All". Then, all devices' name will be restored to default names.

	- U +		
S loc	alhost		
	COM6_test rename 1_PAR/	ALLEL	
- <del>(</del>	COM6_test rename 2_PAR/	ALLEL	
	COM6_test rename 3_PAR/		
		Rename	
		Restore	
		Restore All	

#### Before selecting "Restore All":

Iocalhost COM6_test rename 1_PARALLEL COM6_test rename 2_PARALLEL COM6_test rename 3_PARALLEL
After selecting "Restore All":



## 4.6. Language

Currently, software offers some languages for selection:

- ✓ English
- √ French
- √ German
- ✓ Polish
- ✓ Spanish
- ✓ Chinese(Simplified)
- ✓ Chinese(Traditional)

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

## 4.7. 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.