ALPHA OUTBACK ENERGY

For SNMP Web Card/Box

SNMP Web Management

Management Software for Off-Grid Inverter

Version: 1.2

Table of Contents

1. Overview

1.1　Introduction

This SNMP web card/box can provide web server to monitor and manage off-grid inverters in a networked environment including LAN and INTERNET. It can retrieve the device working status, working data and setting. It also can receive data of temperature and humidity for the environment via connecting to EMD (Environmental Monitoring Device).

Integrated with WatchPower software, it can monitor and remote access all distributed off-grid inverters via SNMP interface. For the detailed operations, please check user manual of WatchPower.

1.2　Features

➢ Open monitor via Web Browser.
➢ Automatically detect and exchange data through 10M/100M Fast Ethernet.
➢ Support wake-on-LAN function.
➢ Supported protocol such as TCP/IP, UDP, SNMP, SMTP, SNTP, HTTP and so on.
➢ Support to record and export event log, including warnings and faults.
➢ Support daily reports for event log and data log.
➢ Support parallel-inverter monitoring.

1.3　Overlook
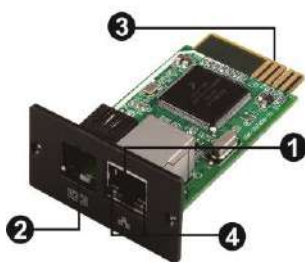
❶Ethernet port (10/100Base-T)
❷Sensor port
❸Golden finger: connects to device slot
❹Ethernet port status LEDs
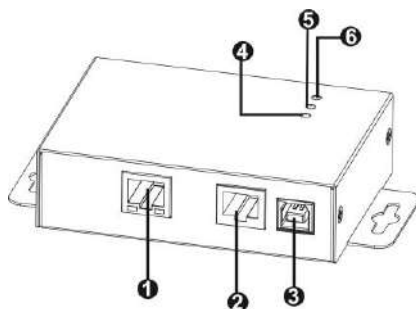
❶Ethernet port(10/100Base-T)
❷RS-232 port
❸5Vdc DC input
❹Data receiving indicator
❺Data transmission indicator
❻Power indicator

Ethernet port status LEDs:

100M LED (Green)	Flash	Port is operating at 100Mbit/s
	Off	Card is not connected to the network
10M LED (Yellow)	Flash	Port is operating at 10Mbit/s
	Off	Card is not connected to the network

1.4　Connection

Refer to chart 1-1 for connecting the SNMP card and chart1-2 for connecting SNMP box.

If using SNMP card:

Plug Ethernet cable to the Ethernet port (RJ-45) on the SNMP card. Use one more Ethernet cable. Connect one end to the sensor port on the SNMP card and the other end to the optional environmental monitoring device.

If using SNMP box:

Use one Ethernet cable to connect to Ethernet port (❶) of the box. Use one RJ45 cable to connect to RS-232 port (❷) of the box and RS-232 port of the inverter. Then, use bundled USB cable to connect to USB port (❸) of the box and 5V DC USB power source.
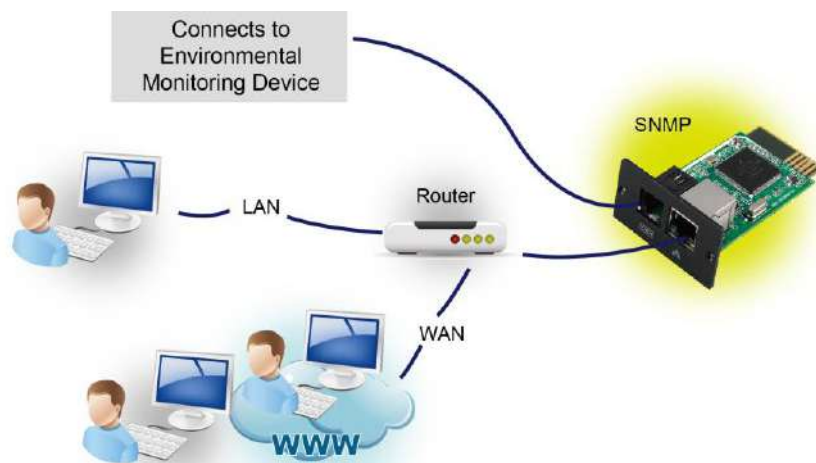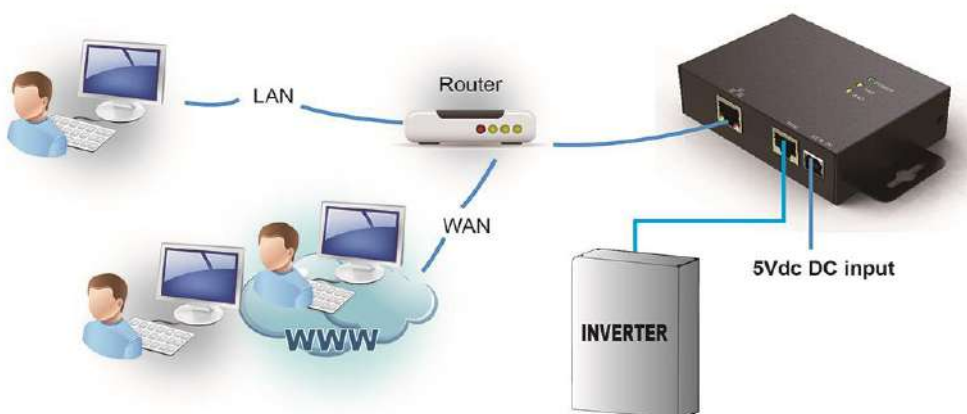

Chart 1-1

Chart 1-2

1.5 Configuration

a) Please install SNMP web manager software in your PC. After software is installed successfully, the Installer will leave a shortcut icon on your desktop.

Chart 1-3

b) Enter specific IP address to search all SNMP devices in LAN. (The SNMP web manager will automatically collect the IP address from sever by default via a DHCP server. It will apply default IP address of 192.168.102.230, default subnet mask as 255.255.255.0, and default gateway as 0.0.0.0 without a DHCP server.
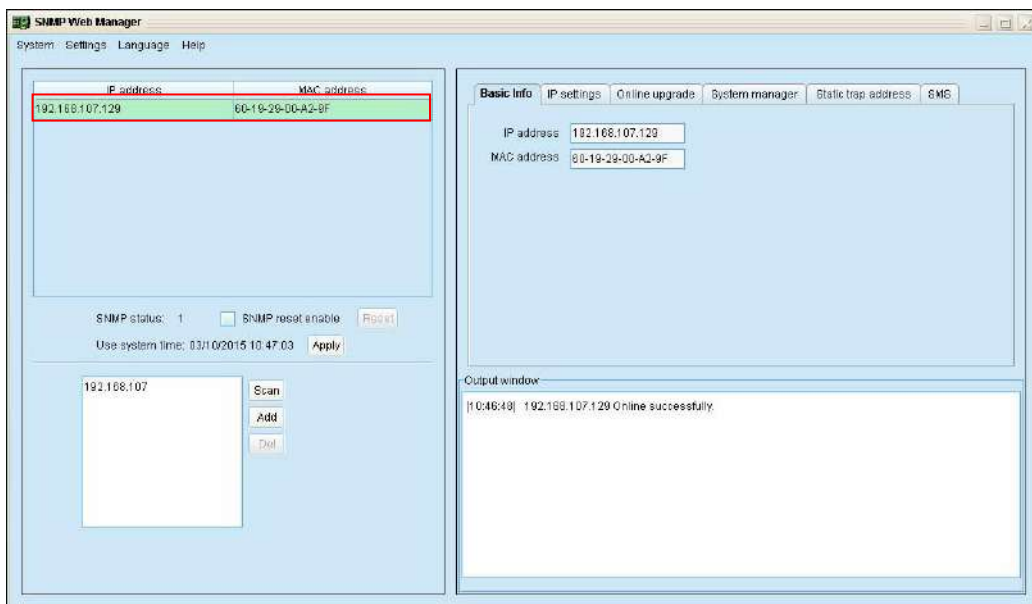

Chart 1-4

c) User can modify IP setting, online upgrade, password management, and static trap address setting in SNMP Web Manager screen. It is necessary to enter password for any modifications. The default password is 12345678.

Please check SNMP Web Manager User Manual for detailed configuration.

1.6 Monitoring

There are two ways to monitor:

a) Double click the selected device from the device list (refer to Chart 1-5) to open web page as Chart 1-4.

Chart 1-5

b) Installed WatchPower software to monitor SNMP devices. Refer to Chart 1-5. Please check WatchPower User Manual for detailed monitoring.
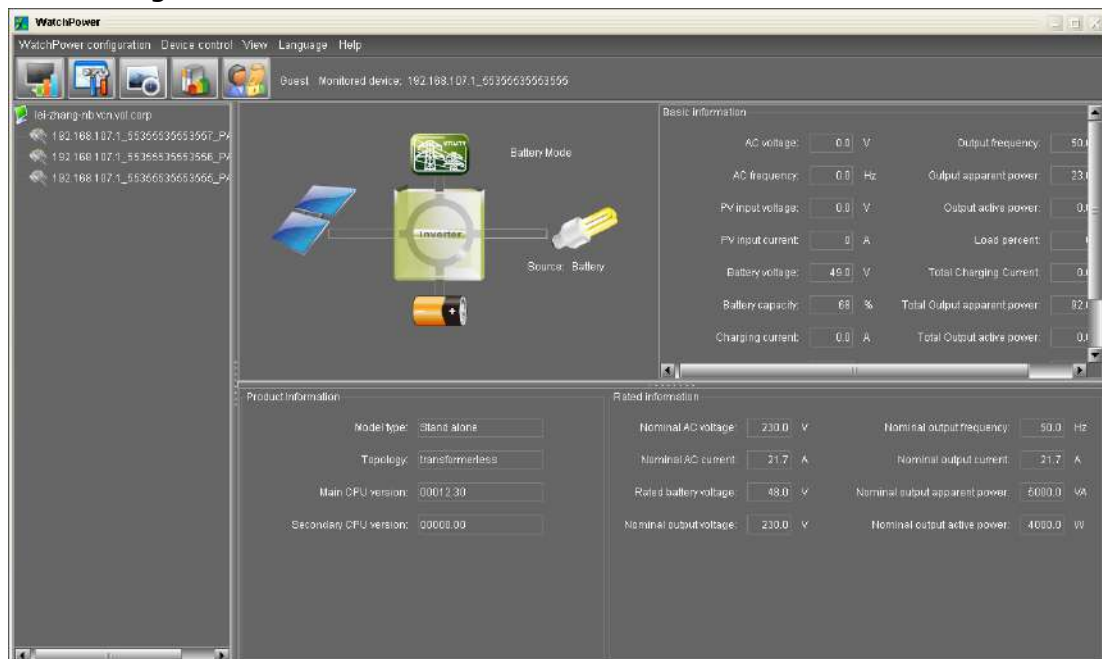

Chart 1-6

2. SNMP Web GUI

SNMP web GUI includes function menu, login section and main screen. Refer to Chart 2-1:
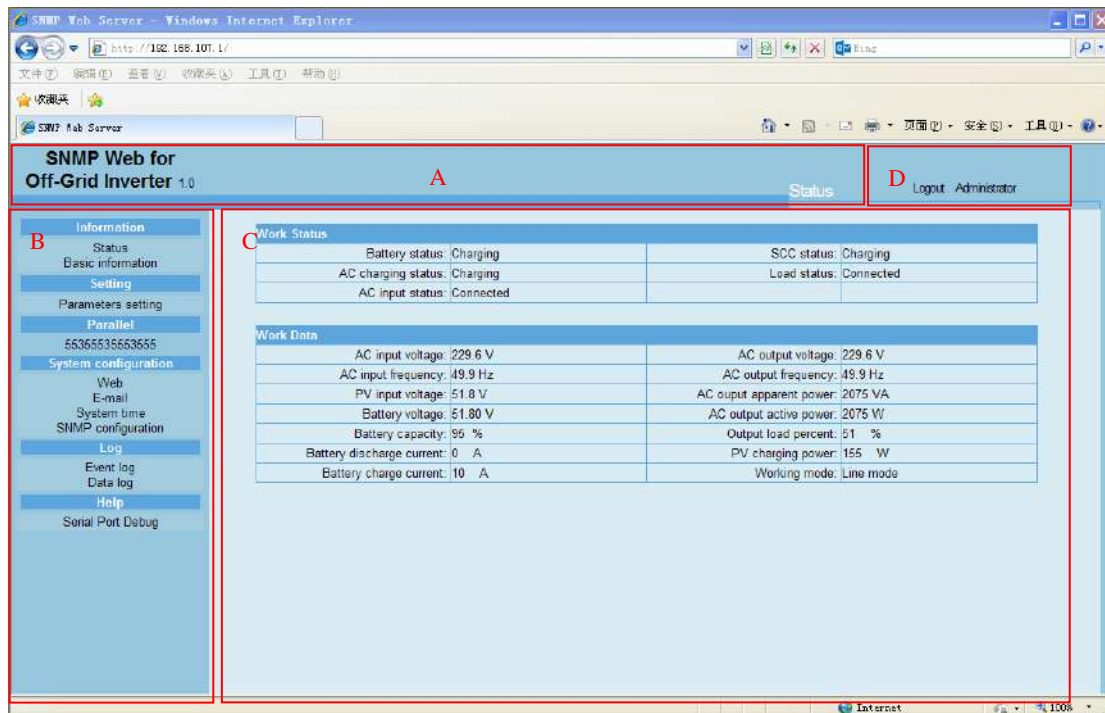

Chart 2-1

A .SNMP web GUI version

B .Function Menu

It offers complete tool-set for navigation and setting the GUI.

C .Main Screen

It will display information and/or control alternatives according to function menu selected.

D. Login section

It shows user type for current login user. The default password for administrator is "12345678".

3. Function Menu

3.1   Information

3.1.1.   Status

Select Information >> Status. Refer to Chart 3-1. It's shown real-time monitored off-grid inverter data including working status and data. Working data includes input information, output information, device mode and battery information in table format.

Chart 3-1

3.1.2.   Basic information

Select Information>>Basic information. It includes product information and rated information. Refer to Chart 3-2.

Chart 3-2

3.2   Setting

3.2.1 Parameters setting

Some functions can be set and changed via software. Parameter setting includes voltage and frequency setting, status setting and restore to the default setting.

Select Setting >> Parameters setting. Refer to Chart 3-3.

Chart 3-3

Note: Different inverter model may access different parameter setting.

1. Select the functions by clicking "Enable" or "Disable" button. Change the numbers by clicking up-down arrows or modify the numbers directly in the number column.

2. Click "Apply" button to save the settings. Each function setting is saved by clicking "Apply" button in each section.

3. Click "Restore to the defaults" button to set control parameter to default value.

4. Before setting value in Battery cut-off voltage, Bulk charging voltage and Floating charging voltage columns, it's necessary to set Battery type as "user".

5. Please check parallel setting for detailed set up.

Note: Any functions which are not supported by current inverter will not be able to access.

➢ Buzzer alarm: If enabled, buzzer will be activated. Vice versa.

➢ Power saving mode: If enabled, power saving mode will be activated. Vice versa.

➢ Backlight: If enabled, LCD backlight will be activated. Vice versa.

➢ Overload auto restart: If disabled, the inverter will automatically restart when overload occurs. Vice versa.

➢ Over temperature auto restart: If enabled, the inverter will automatically restart when over temperature occurs. Vice versa.

➢ Beeps while primary source interrupt: If enabled, alarm will sound when primary source is interrupted. Vice versa.

➢ Overload bypass: If enabled, the inverter will bypass AC input when overload occurs. Vice versa.

➢ LCD returns to default display after 1 min: If enabled, the LCD will automatically return to default page when any button is not pressed for 1 minute. Vice versa.

➢ Solar power balance: When enabled, PV input power will be automatically adjusted according to connected load power. If disabled,

PV input power will be the same to max. battery charging power no matter how much loads are connected.

➤ Output source priority: There are 3 options: utility first, solar first and SBU. If "SBU" is selected, solar power will supply power to the load first. When solar power is not sufficient, battery power will supply the load. When battery power is running out, utility will be the power source for the load.

➤ AC input range: There are two options: appliance and UPS. Please select proper device you want to connect to the inverter. Please check the acceptable AC input range in inverter spec.

➤ Output frequency: Nominal output frequency, 50Hz and 60Hz selectable.

➤ Battery re-charge voltage: Click up-down arrow to set up battery re-charge voltage point. If "SBU" is selected in output source priority, the inverter will transfer output source to utility when battery voltage drop to battery re-charge voltage point.

➤ Battery re-discharge voltage: When battery voltage is higher than this setting voltage, battery will be allowed to discharge.

➤ Battery type: Please select battery type. There are three options: AGM, Flooded and User(user-defined). If "User" is selected, you can set the following voltages.

◇ Battery cut-off voltage: Setting range is 40.0 V~ 48.0 V.
◇ Bulk charging voltage: Setting range is 48.0 V~ 58.4 V.
◇ Floating charging voltage: Setting range is 48.0 V~58.4 V.

Parallel Setting: If there are more than 2 inverter operated in parallel, please configure these 4 parameters in each inverter: output mode, charger source priority, max. AC charging current and max. charging current. Refer to chart 3-3. Please follow below steps for the details.

Step 1: Click "Parallel→ Machine ID" in function menu to access parallel setting for each unit. Refer to Chart 3-4.

Chart 3-4

Then, it will show detailed information of this inverter. Refer to Chart 3-5.

Chart 3-5

Step 2: At this time, click "Parameter Setting" again. Although it looks like same screen as Chart 3-4, it's ok to set up "parallel setting" for selected inverter. Refer to Chart 3-6.

NOTE: The remaining setting are applied for all inverters.

Chart 3-6

➢ Output Mode: Only when the inverter is turned off, this setting is able to set up. The options will be different based on different inverter models. 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.

➢ Charger source priority: There are 4 options: utility first, solar first,

solar and utility and Solar only.   If "solar first" is selected, solar power will become first charging source.

➢ **Max.AC charging current:** Click up-down arrow to set up AC charging current. For the detailed setting, please check inverter manual.

➢ **Max. charging current:** Click up-down 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.

3.3   Parallel

3.3.1   Machine ID

If the inverter is parallel model, you can browse information of all parallel models by clicking each ID under parallel menu. Refer to Chart 3-7

Chart 3-7

3.4   System configuration

3.4.1   Web

It configures the authority to access SNMP webpage. Please enter access ID and password in each column. There is no any limitation to access control in default setting. Refer to Chart 3-8.

Chart 3-8

3.4.2 E-mail

It's allowed to send alarm mail by SMTP server. To use this function, the e-mail service must be correctly configured. All values in this function page are default empty. This action can't be executed without the SMTP information, e-mail account and password. Besides, the sender account should be allowed for SMTP/POP3 forwarding.

Select System Configuration >> E-mail. Refer to Chart 3-9

Chart 3-9

1. Enter SMTP server, SMTP port, sender's E-mail address, user name and password. Click checkbox of "Need Auth" for password verification.
2. Click "Apply" to save the 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 in setting.
3. Enter correct e-mail accounts in Recipient section. Then, click "Apply" to add into receivers list. Click "Delete" button to delete e-mail

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account.

3.4.3 System time

Select System Configuration >> System time. Refer to Chart 3-10.

Chart 3-10

- Automatic time correction interval: There are five options: No, 1 hour, 12 hours, 1 day and 1 week. When interval is selected, it will automatically calibrate time.
- Time server: Please enter SNTP server IP address or domain name of time server.
- Time Zone: Select time zone based on GMT.
- Applying daylight saving time: Please choose "Yes" when your time zone is applying daylight saving time.
- System Time (mm/dd/yyyy hh:mm:ss): It is to set up SNMP web local time. Please be sure to set up correctly so that time of event log and data log will be correctly recorded.
- Auto Restart system for Every (0: Disable): XX Minute(s)
- Manual Restart system after 30 Seconds: When click "Apply" button, SNMP will restart after 30 seconds.

3.4.4 SNMP configuration

Setting SNMP basic information such as IP address, password, trap IP address, SNMP UDP port and Restore the factory settings.

Note: Some operations will cause SNMP to reboot. It's normal operation.

Select System Configuration >> SNMP configuration. Refer to Chart 3-11.

Chart 3-11

- IP address: There are two methods to obtain IP address
    1. Automatically obtain IP address (DHCP, default setting)
       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".
    2. Use a static IP address
       Enter a static IP address.
- Password: Modify the password. The length of password is 8~15 digits.
- Trap IP address: The SNMP device could provide 4 static trap addresses.
- SNMP UDP port: You may change SNMP port and trap port.
- Restore the factory settings: Click "Restore" button to restore to factory default settings.

    Note: The system will default automatically obtain IP address and default Password is 12345678.

3.5　Log

3.5.1　Event log

In the Event Log window, it lists all history events and can be saved as .csv file. The event log includes warnings, fault information and EMD warnings. Refer to Chart 3-12.

Select Log >> Event log.

Chart 3-12

3.5.2 Data Log

In the Data Log window, it will list all history logs and can be save as .csv file. Refer to Chart 3-13.

Select Log >> Data log.

Chart 3-13

3.6 Help

3.6.1 Serial Port Debug

It's to useful tool to verify communication problems between SNMP web card/box and device. Users can send commands in this webpage and it will get query result from output window. It will help technical support personnel to verify problems.

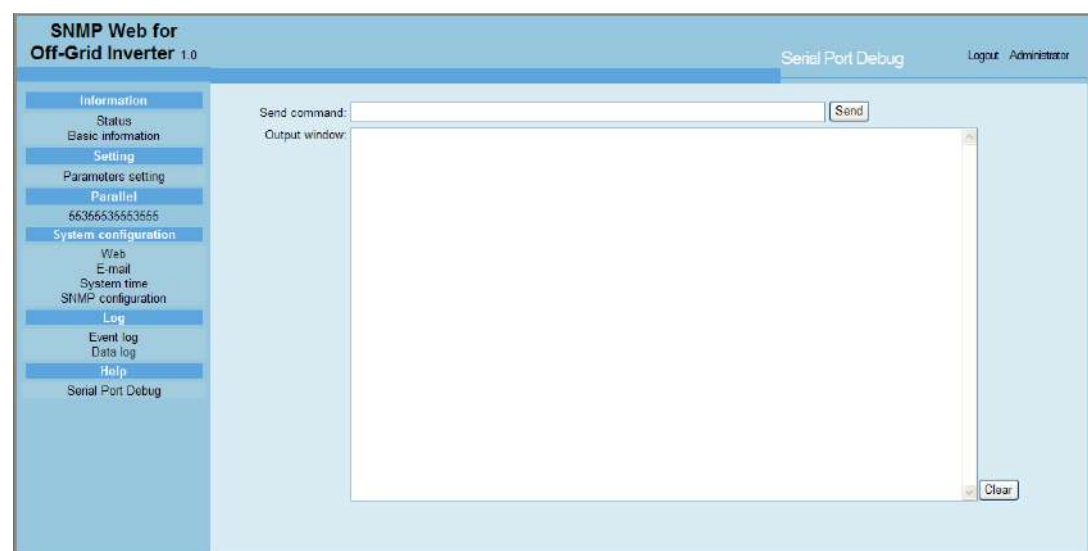Select Log >> Event log. Refer to Chart 3-14.

Chart 3-14

For more information please visit **www.alpha-outback-energy.com**