Zeus Appollo™–WIFIKIT User Manual

Zeus Appollo Solar

Overview of WIFIKIT Function

Zeus Appollo™-WIFIKIT has been developed by Zeus Appollo Solar as an external communication monitoring device, which integrates a Wi-Fi device for users and provides a wireless monitoring function.

By connecting with inverters through an RS485 interface, the Kit can receive information from inverters and realize cascade connection of inverters. It can not only provide a wireless function, but also can be used via a cable to transfer inverter data to the web server

Users can monitor the runtime status of the device by checking the 4 LEDs on the panel, that indicate Power, RS485, Link and Status respectively.

Catalogue

1 Communication cable connection

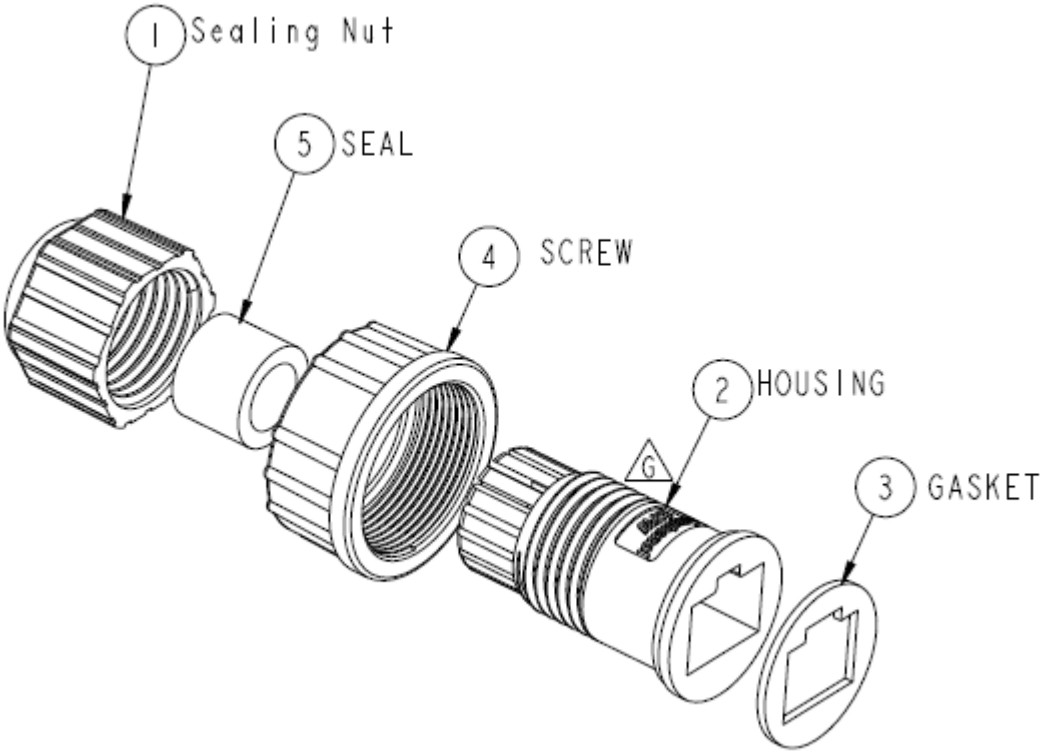
1.1 Three Phase Inverter

For Zeus Appollo™ 3-phase inverters Z10I-13KDT/17KDT/20KDT, which have an integrated RS485 interface, the cable connection for the inverter is as follows.

1.1.1 Cable connector preparation

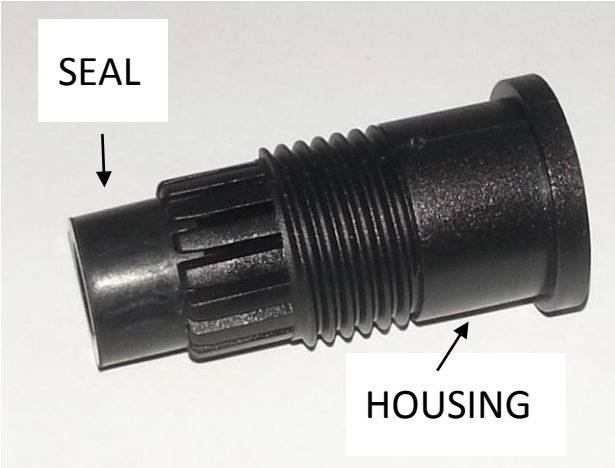
In order to satisfy an IP65 level, the communication cable needs to be specifically prepared.

A. Find the LTW waterproof cable connector in the package of inverter. There are two sets inside of each package. Then prepare the appropriate length of the RS485 communication cable which has no plug.



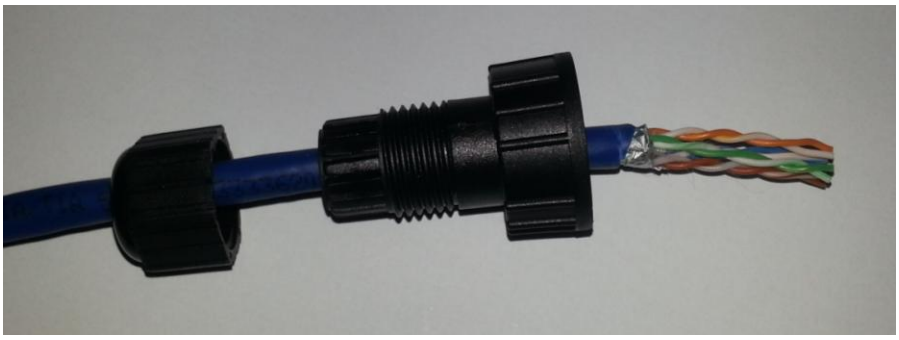
Picture 1.1.1

B. Place the SEAL inside of the HOUSING as Picture 1.1.2.



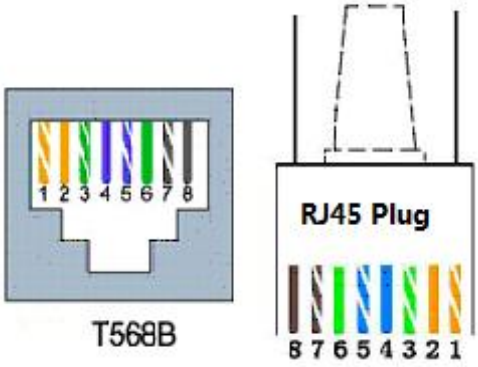
Picture 1.1.2

C. Thread the communication cable through the Sealing Nut, SCREW, SEAL, HOUSING and don't tighten the Sealing Nut.



Picture 1.1.3

D. Put the cable terminal into the plug in the correct order as Picture 1.1.4



Line sequence of T568B
1. orange with white
2. orange
3. green with white
4. blue
5. blue with white
6. green
7. brown with white
8. brown

Picture 1.1.4

E. Clamp the plug with a cable clamp as in Picture 1.1.5

Picture 1.1.5

F. Insert the plug into the HOUSING with the GASKET as in Picture 1.1.6.

Picture 1.1.6

G. Tighten the Sealing Nut applying a torque of 3Nm, Picture 1.1.7 shows an assembled connector.

Picture 1.1.7

H. In order to connect the cable to other inverters, please prepare the other terminal by the same method.

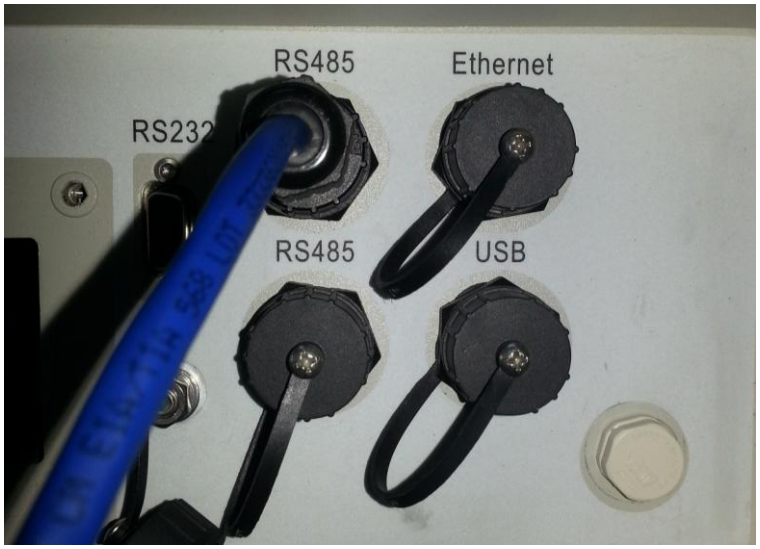
1.1.2 Installation

After the connector is assembled, the next step is to connect the cable to the inverter. The following steps show the installation method.

First open the cap of the RS485, there is an RJ45 connector inside.

Picture 1.1.8

Then put the plug into the RJ45 connector, tighten the screw to the inverter applying a torque of 3Nm.



Picture 1.1.9

Complete the other connection by the same method.

1.2 Single Phase Inverters

For Zeus Appollo™ inverters Z10I-1K/1K5/2K/2K5/3K, Z10I-3KD/4KD/5KD, which have an integrated RS485 interface, the cable connection for the inverter is as follows.

1.2.1 Disassembly

Picture 1.2.1

Unscrew the four screws on the interface panel with the screwdriver as shown in Picture 1.2.1 Leaving the screws in position.

Picture 1.2.2

Picture 1.2.3

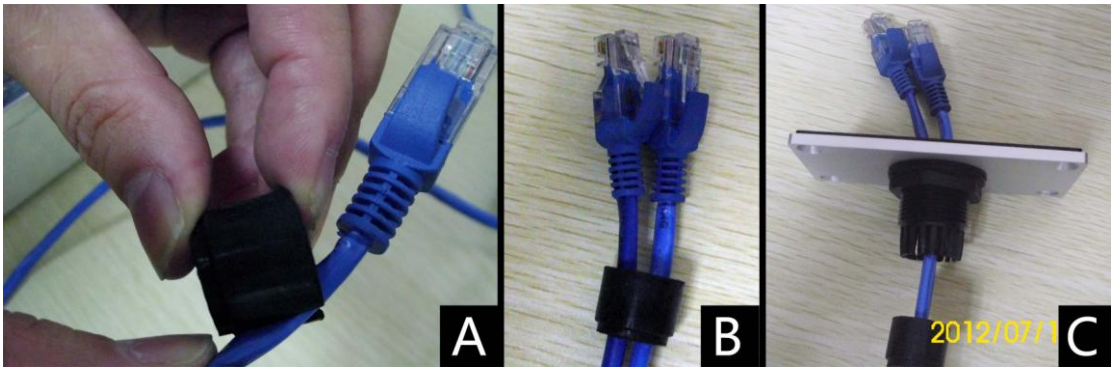
Unscrew the two-holed water-proofing connector from the interface panel as shown in Picture 1.2.2, 1.2.3.

1.2.2 Installation

Extract the net cable and the water-proofing connector from the package and follow the Pictures below：

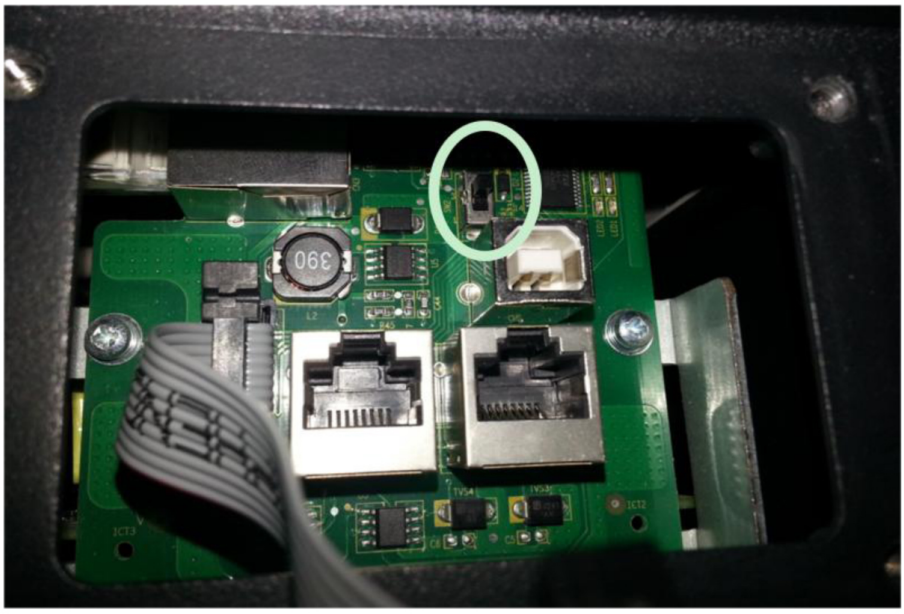
A. Put the net cable in from the gap

B. Put the net cable one after another into the neck of the interface panel



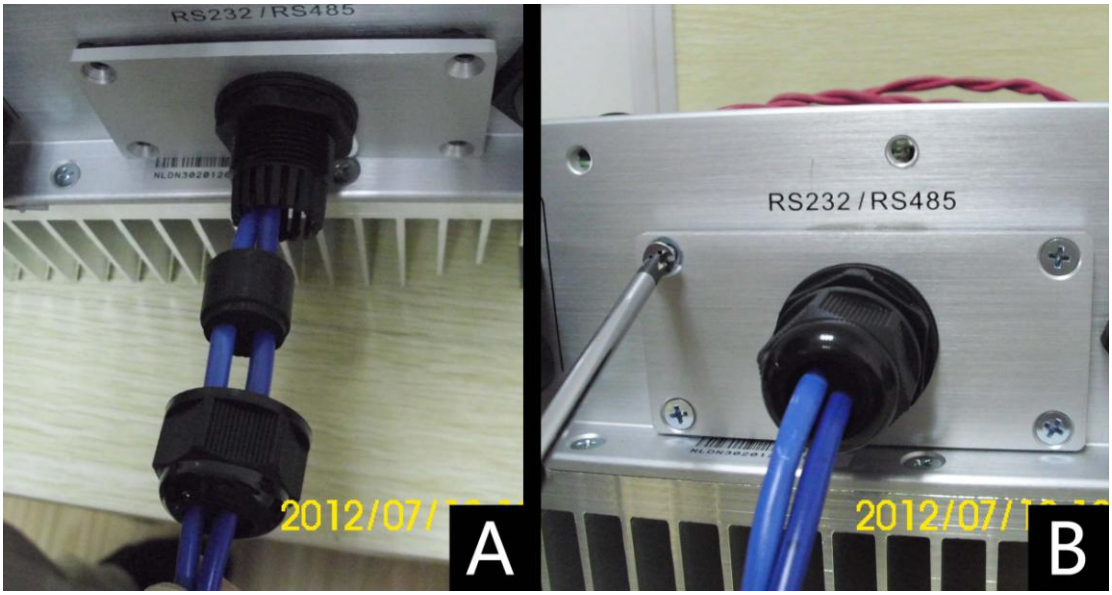
Picture 1.2.4

C. Finish the installation, as Picture 1.2.5：



Picture 4-5

Turn on the switch on the communication board inside of the inverter to the upside as **Picture 4-5**.



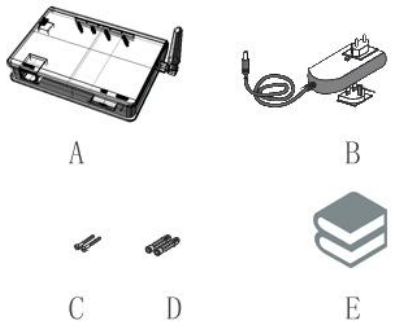
Picture 1.2.5

Zeus Appollo™ –WIFIKIT User Manual

2.1 Unpack

After unpacking the box, please check that all components are present as shown in the list below. Contact the manufacturer immediately if you find any damage, missing components or if it is the wrong model..

Serial	Name	Quantity	Model
A	PV data collector	1	WIFIKIT
B	Power supply adapter	1	FY0502000
C	Screw	2	--
D	expanded rubber tube	2	--
E	Manual	1	--

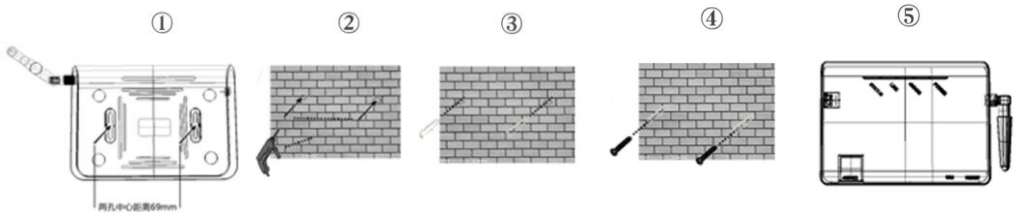


Picture 2.1.1

2.2 The installation of the data collector

2.2.1 Wall-mounted installation

① Mark two horizontal round holes at a distance of 69mm in the selected position
② Drill two φ6mm holes in the marked position, the depth of the hole should not be less than 30mm
③ Punch the expanded rubber tubes into the holes lightly with a rubber hammer
④ Twist two screws into the expanded rubber tubes, the screws head exposed wall about 6mm
⑤ Hang the PV data collector WIFIKIT on the screws，hold the metal part of the antenna and rotate the antenna to the preferred position



Picture 2.2.1

2.2.2 Horizontal data collector installation

Lay the data collector on a flat surface.

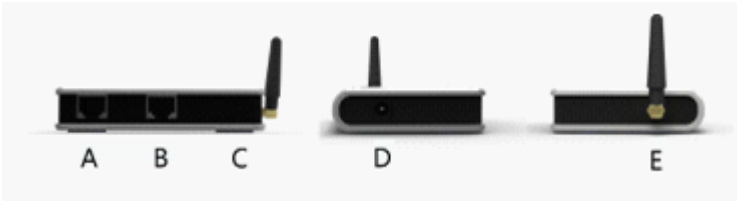
Note1: *The protection level of the PV data collector WIFIKIT is IP21. It cannot be installed outdoors or where conditions of damp, dust or corrosive steam are present. Direct sunlight should also be avoided, as well as protection from shock and pressure. In addition, as metal components have an effect on the wireless signals, the antenna of the PV data collector (in all directions) should be positioned away from metal components by at least 10cm.*

Note2: *When securing or adjusting the antenna position, please note that only the metal part can be drilled, plastic part cannot be drilled, or the antenna will be damaged. In addition, the improper installation will affect the usage of data collector; more details please read the part 2.5 about the abnormal condition during debugging and solutions*

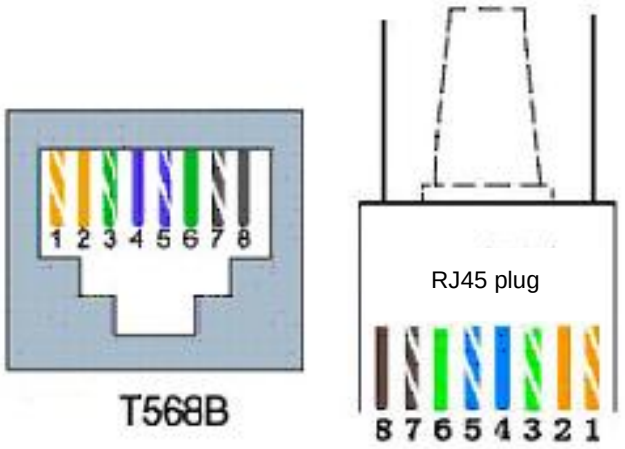
2.3 Connection between data collector and inverter

2.3.1 The instructions of data collector interface and connection line interface

Serial	Instructions
A	RS485/422 interface
B	Ethernet
C	Reset
D	Power supply adapter interface
E	Antenna interface



Picture 2.3.1



Line sequence of T568B
1. orange with white
2. orange
3. green with white
4. blue
5. blue with white
6. green
7. brown with white
8. brown

Picture 2.3.2

Pin NO.	RS485	RS422
1	NC	NC
2	NC	NC
3	NC	RX+
4	A	TX+
5	B	TX-
6	NC	RX-
7	GND	GND
8	GND	GND

2.3.2 Steps of connection

Both ends of the connecting wire are terminated with RJ45 network cable connectors all the line sequences are T568B.

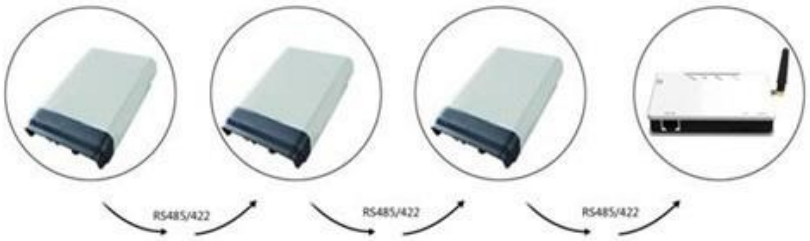
A. Single inverter connection

1) Disconnect the power supply of the inverter
2) Insert the network cable into any one RJ45 port on any one inverter
3) Let the other network cable connect to the network interface of PV data collector WIFIKIT
4) Connect the power supply adapter to the data collector, then insert into the socket

B. Multiple inverter connection

1) Disconnect the power supply of the inverter
2) Insert the network cable into any one RJ45 port on any one inverter
3) Insert the other network cable into any one RJ45 port on a second inverter
4) Make the needed monitoring inverters in series in the same way
5) Connect the PV data collector WIFIKIT to a inverter with the bus,（constitute serial LAN）

6) Connect the power supply adapter to data collector, then insert into the socket



Picture 2.3.3

Note: *Always ensure that the power supply is switched off before connection. Please make sure that all the connections are completed, and then power up the inverters and PV data collectors. Otherwise ~~may cause~~ personal injury or equipment damage may result.*

2.4 Wi-Fi settings

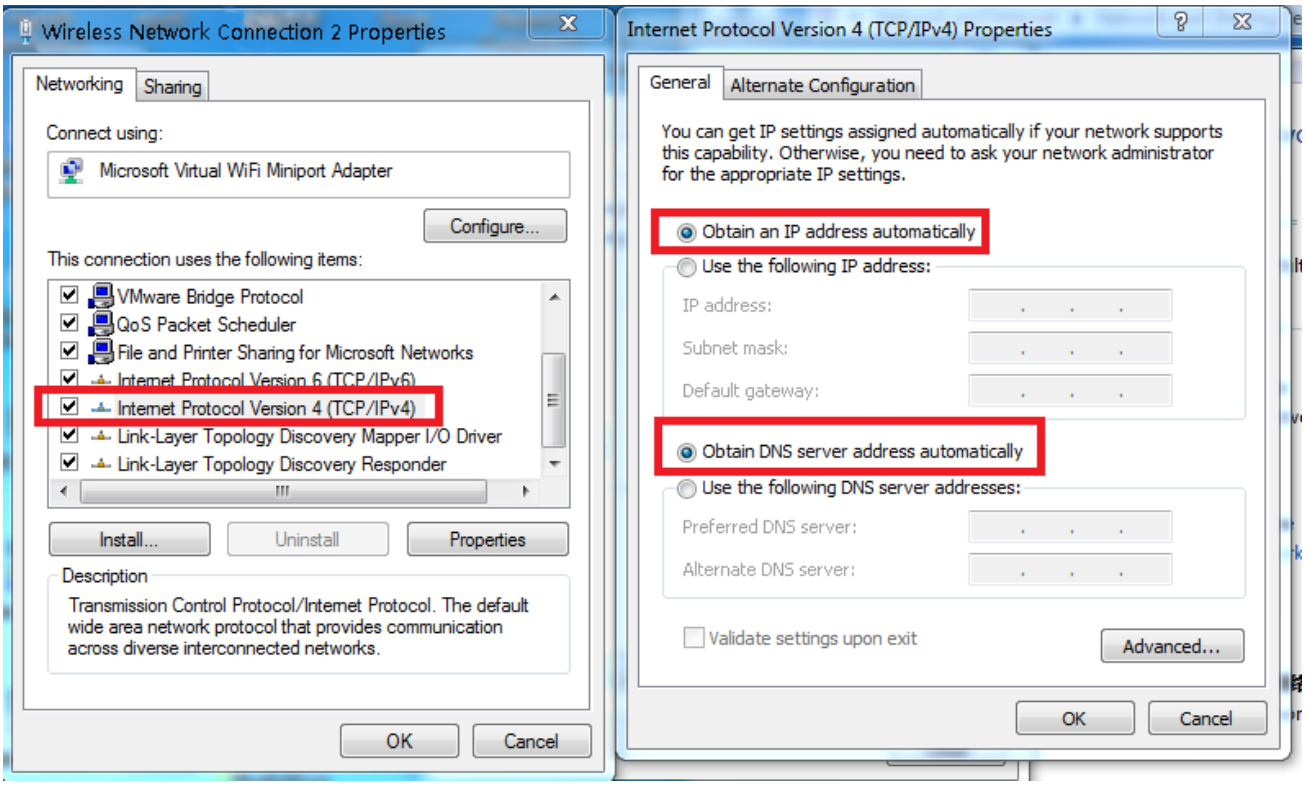
2.4.1 Wireless Network

Insert the Wi-Fi part, turn on DC power, 3minutes later continue the next

Picture 2.4.1

1) Prepare a computer or other device, e.g. a tablet, a PC or a smart phone that is Wi-Fi enable.
2) Obtain the IP address automatically

- Open Wireless Network Connection Properties, double click **Internet Protocol Version 4(TCP/IPv4)**
- Select an IP address automatically, and **click OK**

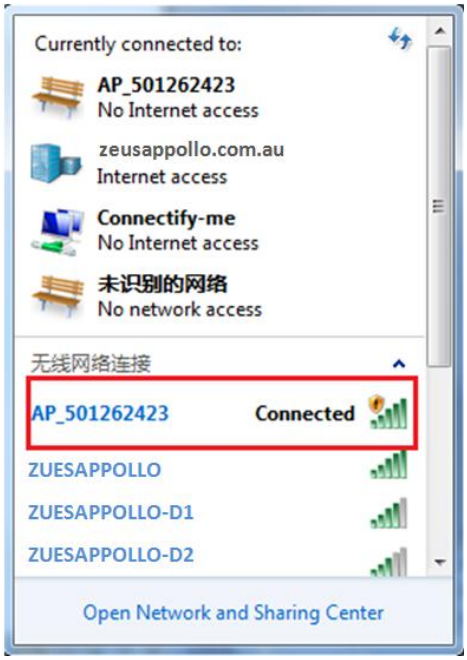


Picture 2.4.2

3) Open the wireless network connection and click **View Wireless Networks**

Select the wireless network of the data logging module as the default, no password is required. The network name consists of **AP** and the **serial number** of the product. Then click **Connect.**

Picture 2.4.3



Picture 2.4.4
Connection successful

Notice: *If* ***AP_ (serial number of product)*** *is not available in the wireless network list, there may be problems in the connection or the settings of the data logging module. Please check if the Wi-Fi has installed ok, and the inverter has been powered on.*

Before troubleshooting, please ask your inverter installer whether you are permitted to remove the cover of the inverter to trouble shoot the module. If this is not acceptable, please contact customer service.

4) *Setting the parameters of the Wi-Fi module*

(a) Open your web browser, and enter 10.10.100.254 (the default IP address of WiFi-Kit, you may set the domain name access, please see the picture 2.4.5), then fill in the username: **admin** and password: **admin**, both of which are admin as default.

Recommended browsers: Internet Explorer 8+, Google Chrome 15+, Firefox 10+

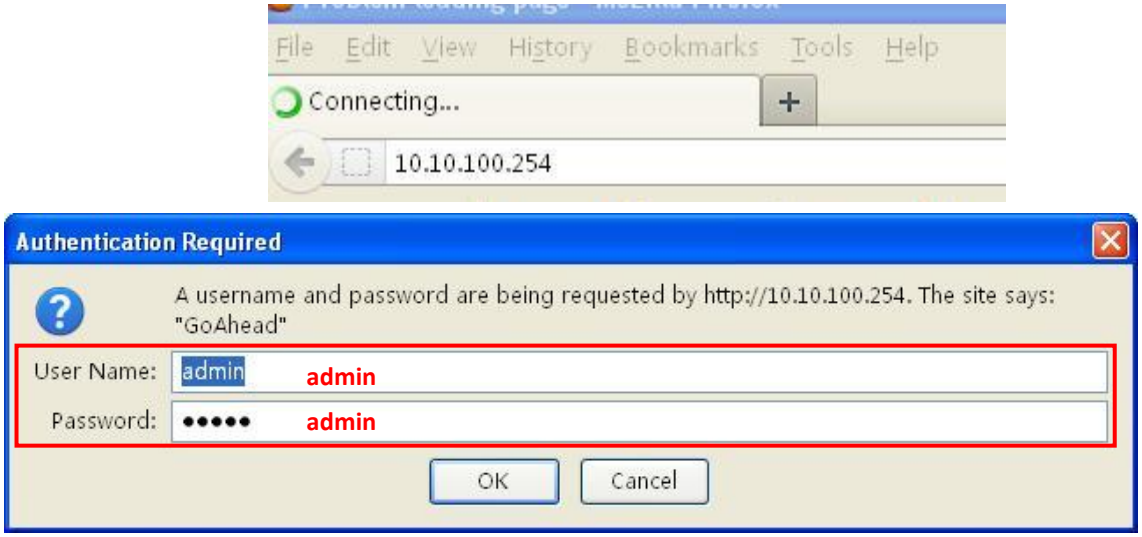
Note:

① *In order to make sure the setting goes smoothly, you need to check following points:*

- *Set your Wi-Fi router to DHCP mode*
- *For single phase inverters, connect the cable to an RS485 interface and ensure the RS485 card inserted securely*

② *The default username & password is : admin, admin. We suggest changing the username & password:*

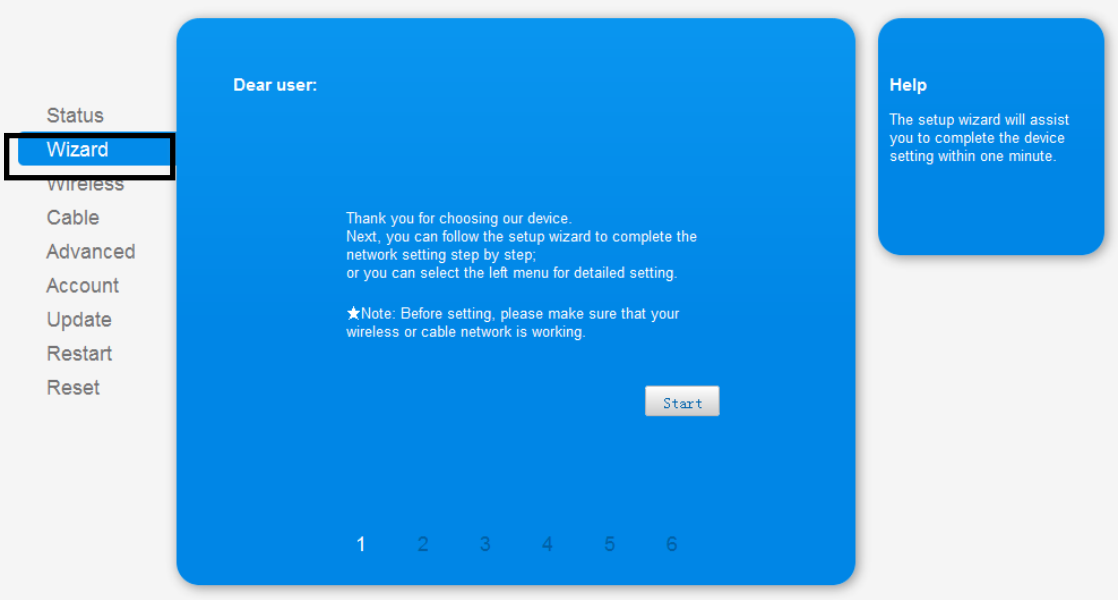
Step: choose "Account" , input your username & password.



Picture 2.4.5

(b) In the configuration interface of the Wi-Fi module, you can view general information ~~of~~ about the module.

Follow the setup wizard to start the quick setting.

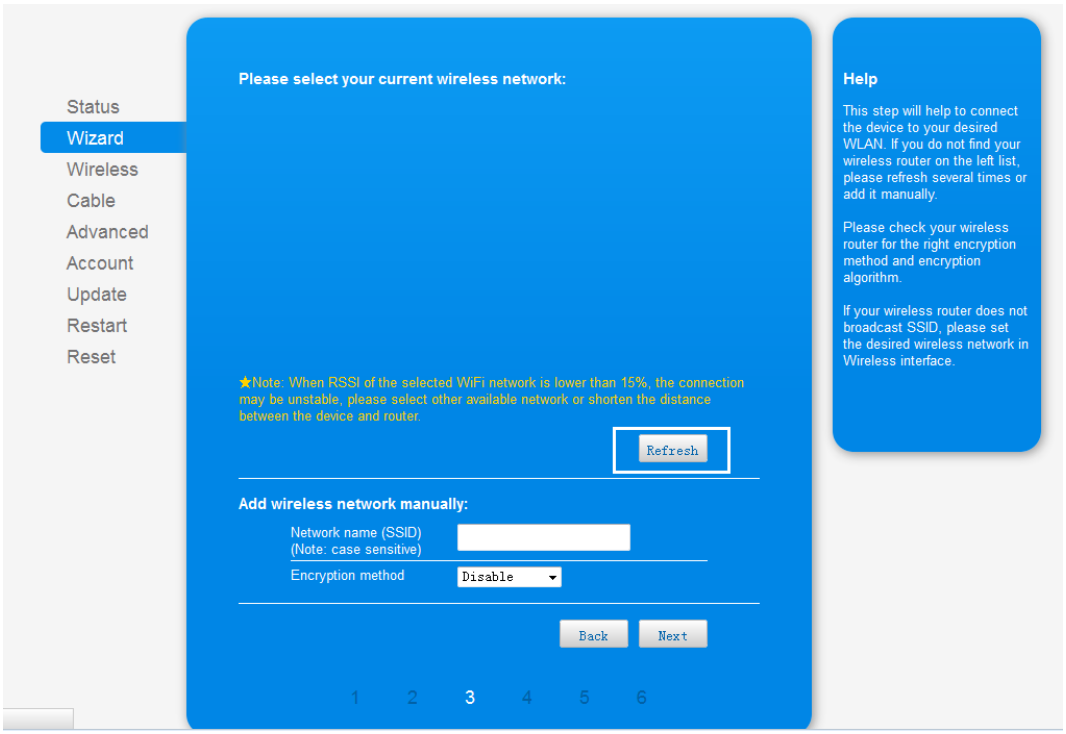


Picture 2.4.6

Click **Wizard** to start

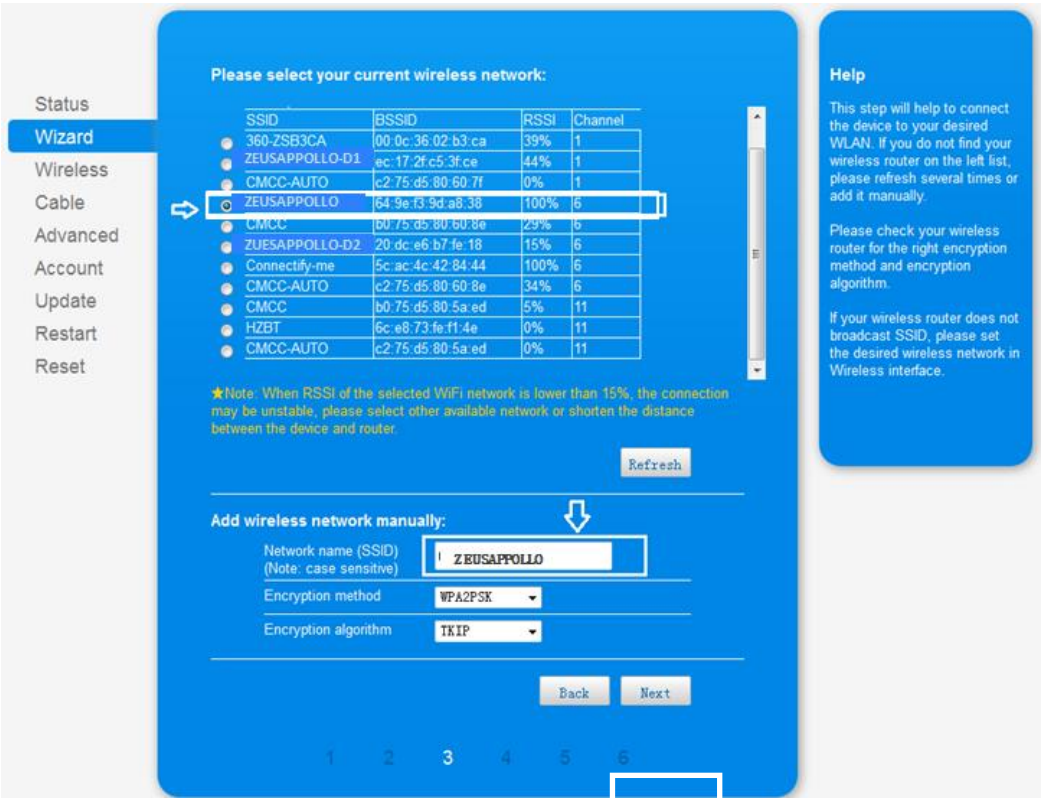
Picture 2.4.7

Choose **Wireless Connection**



Picture 2.4.8

Click **Refresh** to search for available wireless networks, or input the network name manually.



Picture 2.4.9

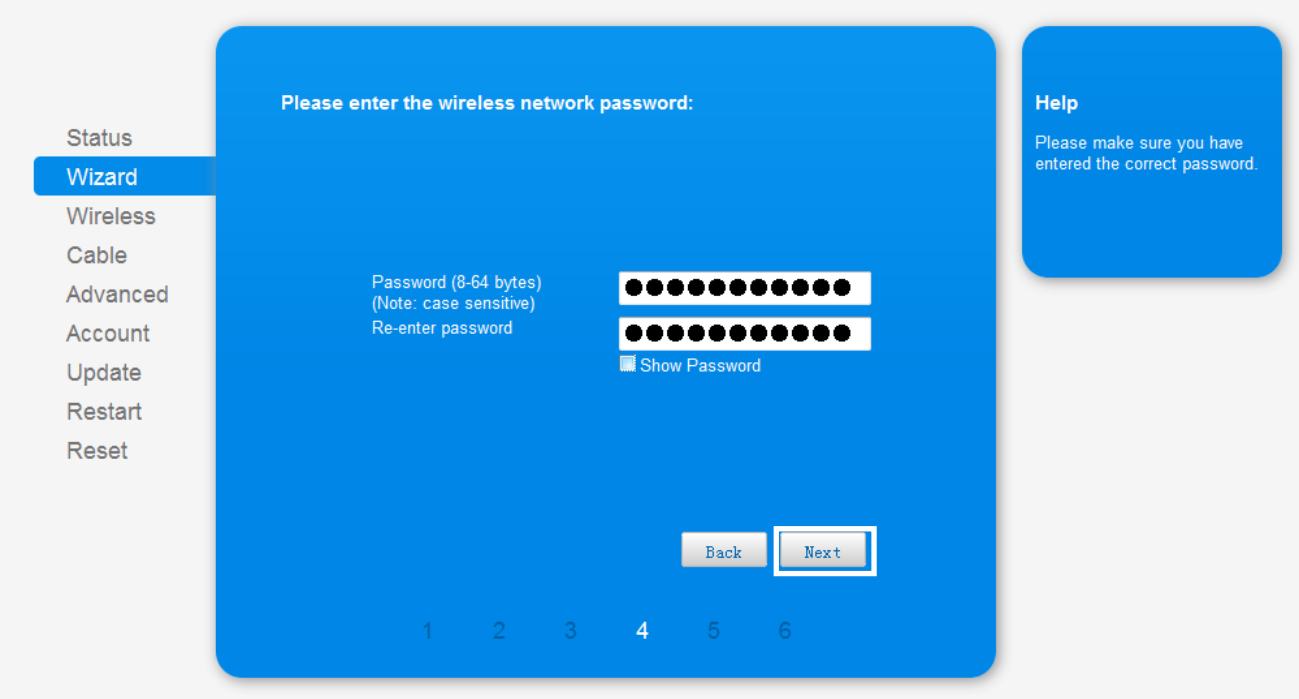
Select the wireless network you require, and then click **Next**

Notice:

① If the signal strength (RSSI) of the selected network is <10%, this may result in an unstable connection, please adjust the antenna of the router, or use a repeater to enhance the signal.

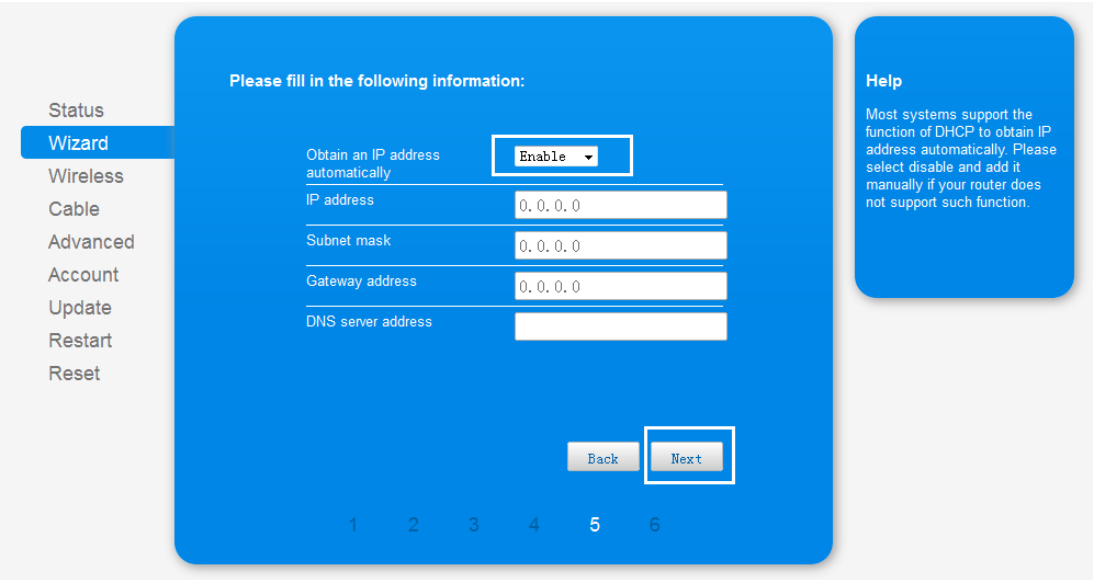
② We recommend the following router setting:

- *Security setting: WPA2-personal*
- *Encryption type: AES*



Picture 2.4.10

Enter the password for the selected network, and then click **Next**



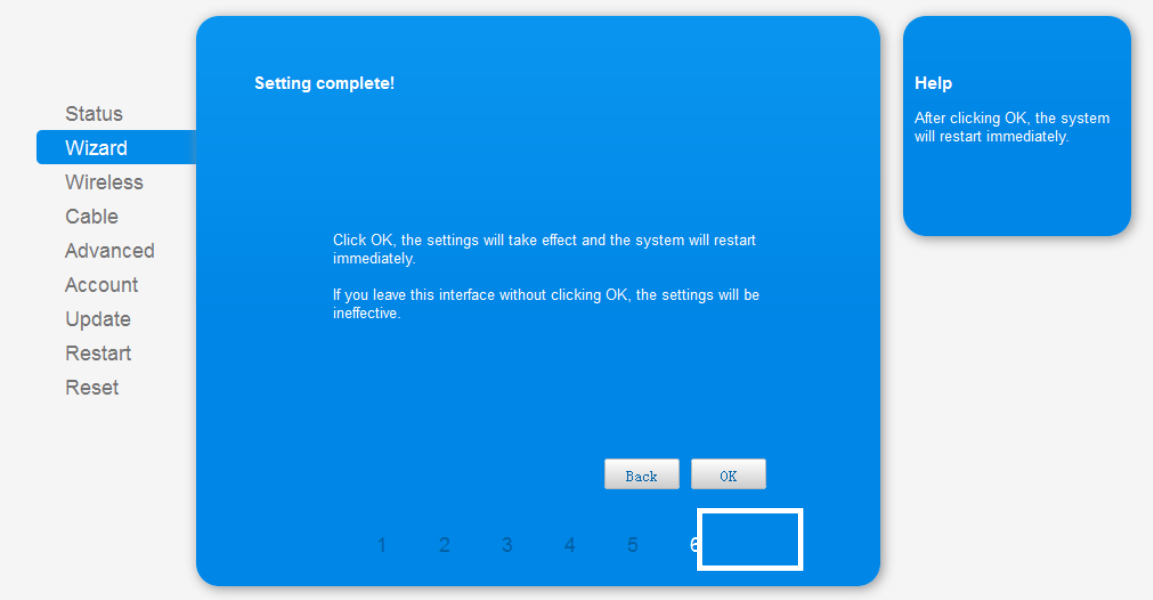
Picture 2.4.11

Select **Enable** to obtain an IP address automatically, then click **Next**

Notice:

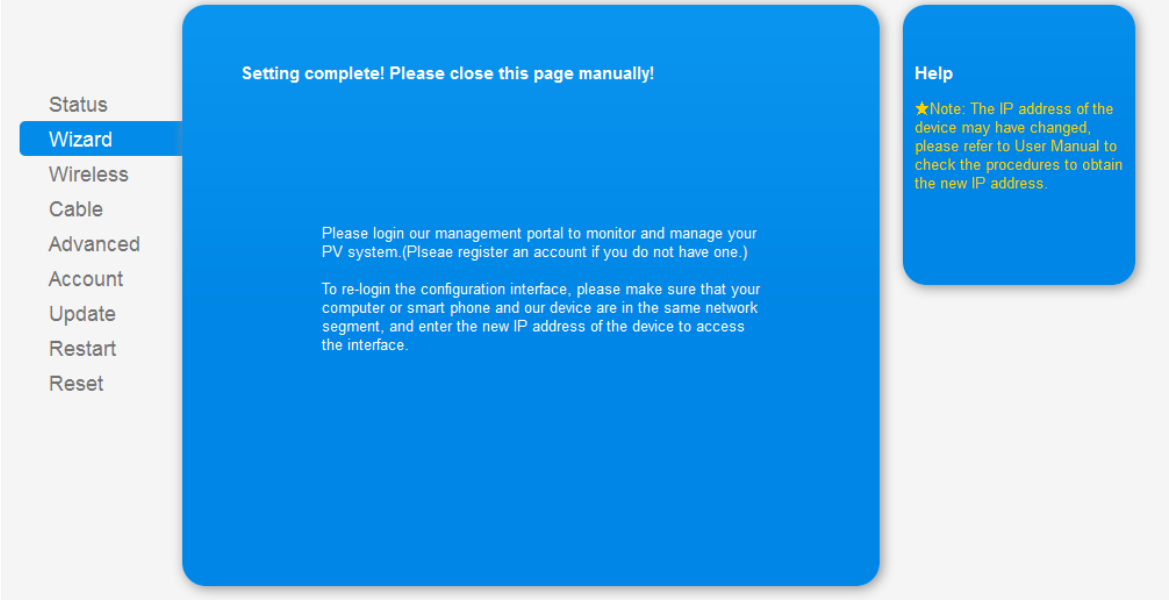
① Turn off the firewall of the router

② Make sure the DHCP function of the router is enabled



Picture 2.4.12

If the setting is complete, the above page will display. Click **OK** to restart.



Picture 2.4.13

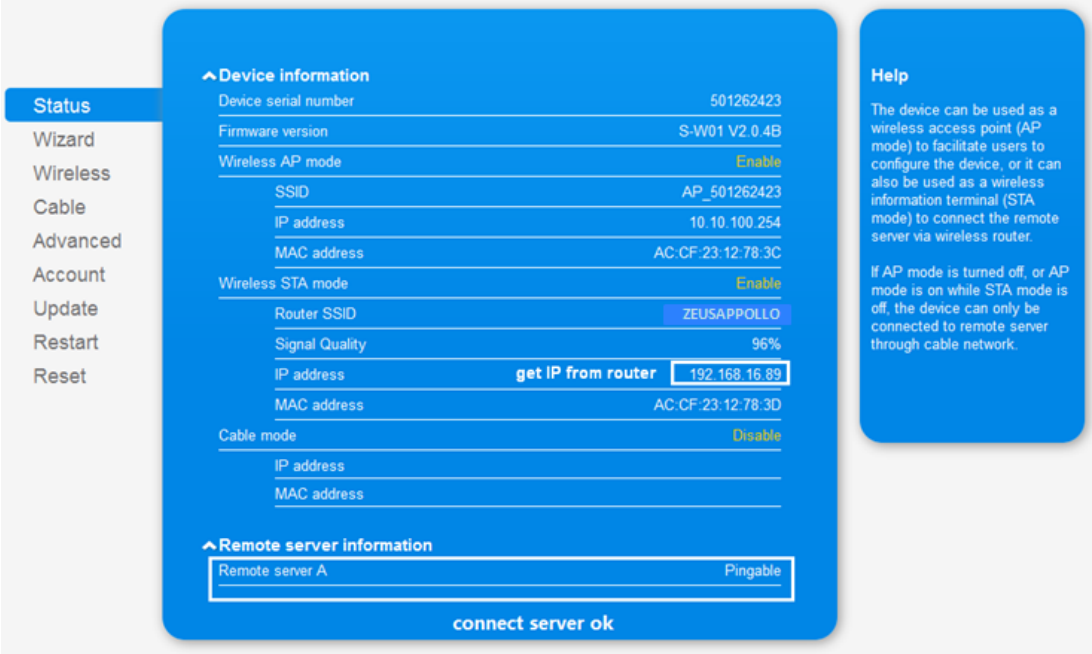
If the settings are complete and correct, the above page will display.

When your WiFi-Kit is setup correctly and has obtained an IP address from your router for

example: 192.168.16.89.

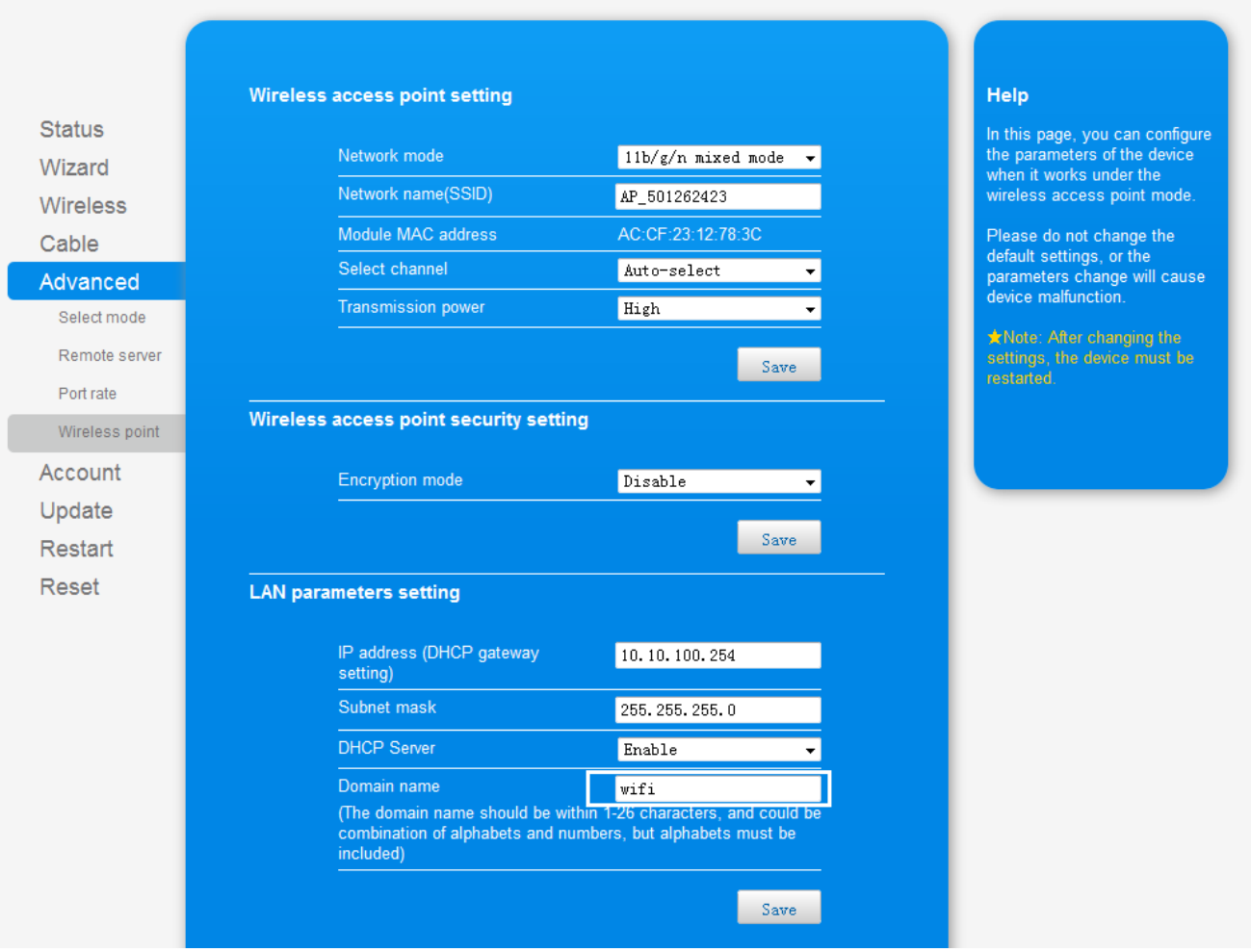
(You may see the IP address when the “Status” option is accessed, please see picture 2.4.14)

Inputting: http://192.168.16.89/ will display the page:



Picture 2.4.14

You may also add the domain name of the WiFi-Kit for easy access as shown in the picture below, after you input OK, then input http://wifi, you may also then access the related page.



Picture 2.4.15

When the network settings are completed you may login www.monitoring.zeusappollosolar.com.au and browse the data.

2.4.2 Wired network

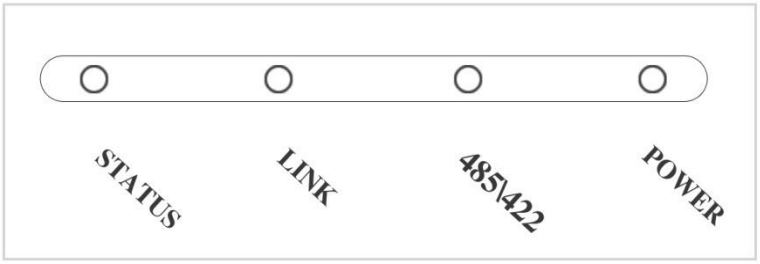
You can use the network cable to connect to the Ethernet port of the WIFIKIT and the port of the router. Then the inverter info received via Wi-Fi will be directly transferred to the remote server. See picture 2.4.16

Note: *the default WIFIKIT is Wi-Fi network, if you are using the Ethernet port, please restore to the factory default setting.*

Picture 2.4.16

2.5 Debug

LED indicator lamp summaries



Picture 2.5.1

Trouble shootings with LEDs

Name of LED	Status	Description of status
POWER	Light	The power is normal
	Dark	The power is abnormal
485\422	Light	The connection between collector and inverter is normal
	Flashing	Data is transferring between collector and inverter
	Dark	The connection between collector and inverter is abnormal
STATUS Dark	LINK Flashing	Connecting Wi-Fi
STATUS Light	LINK Flashing	Data is transferring of Wi-Fi
	LINK Light	The connection of collector is normal
	LINK Dark	The connection of collector is abnormal
STATUS Flashing	LINK Flashing	Data is transferring of port
	LINK Light	WiFi is in the AP way, a terminal is connecting with the equipment
	LINK Dark	WiFi is in the AP way, no terminal is connecting with the equipment

Phenomenon				**Possible reasons**	**Dealing ways**
POWER	485/422	LINK	STATUS		
Dark	Dark	Dark	Dark	Haven't connected to the power	Connect power and ensure that the power supply is good.
Light	Dark	X	X	The connection of inverter is abnormal	Check the connection cable is right and ensure that the order is according to 568-B
					Ensure the stability of

					RJ-45 connector line
					Confirm the status of inverter and ensure it's working condition is normal
Light	X	X	Flashing	In the AP Mode	Set network settings
Light	X	Flashing	Dark	Collector is not connected with WIFI	Confirm if the antenna is loose or fall off. If so, please screw it.
					Check if the Wi-Fi wanted is covered.
					Restore the factory settings according to the installation manual and reset.
Light	Light	Dark	Light	Fail to connect the remote server	Please confirm that Wi-Fi can be connected with the Internet.
Light	Dark	Dark	Dark	The system is initialized	Please wait. If there is no change in 2min, please reset the collector.
Note1:x means the status is instability *Note 2: when screw or adjusting the antenna position, please note only the metal part can be screwed, plastic part cannot be screwed, or the antenna will be damaged* *Note3: If the equipment still cannot work according to the above instructions, please connect your device customer service.*					

2.6 Register on monitoring website

Our products are supported by PV monitoring system Web site browsers：IE8，Firefox，Chrome，Safari，log into the website http:// www.monitoring.zeusappollosolar.com.au , click on register, enter the user registration page, follow the requirements for registration, after successful registration, enter the mailbox and activity account, then complete the registration.

2.6.1 Click the Register button to go to the registering interface for a new account

Picture 2.6.1

2.6.2 Fill in the user information as required

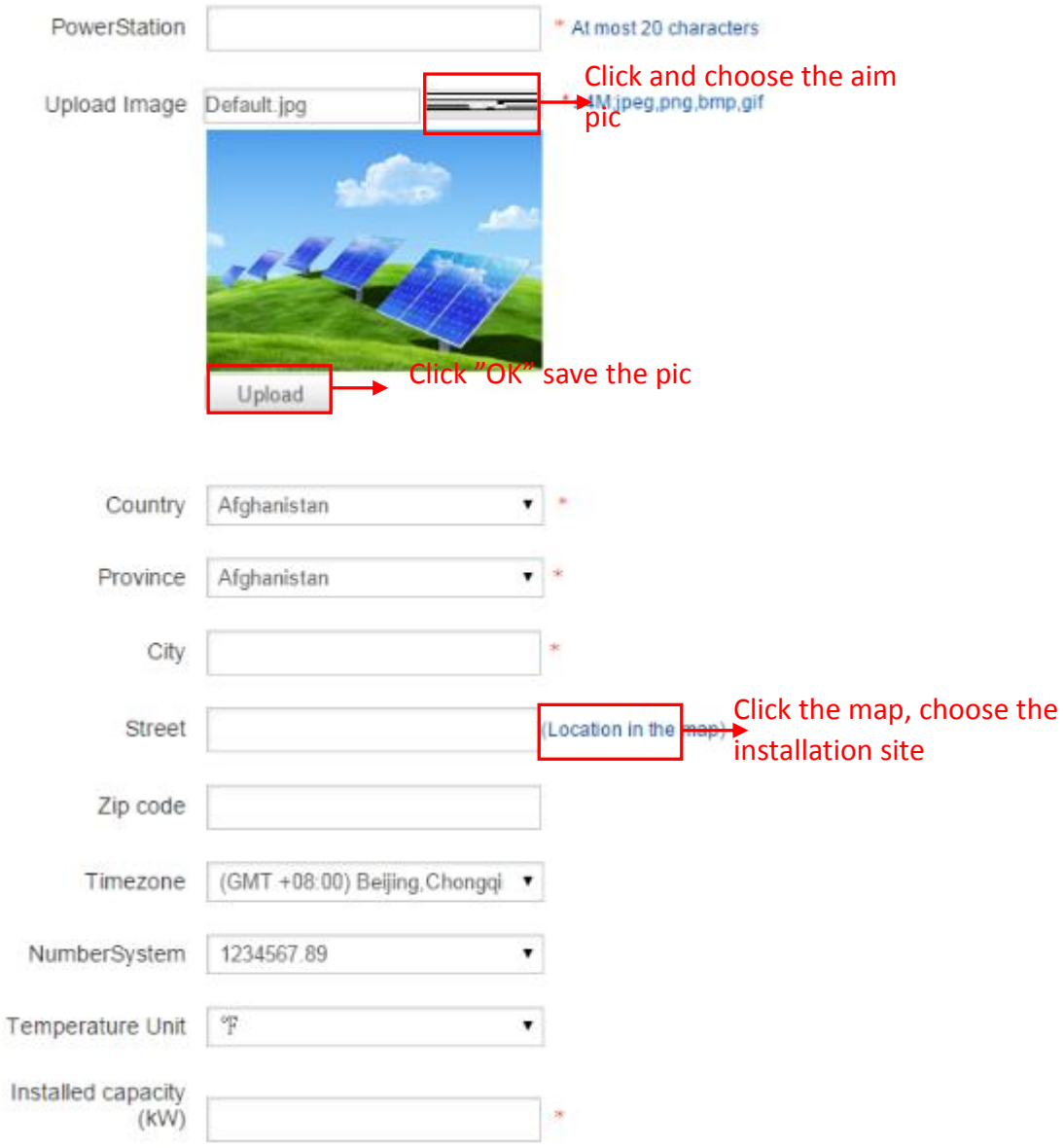
Picture 2.6.2

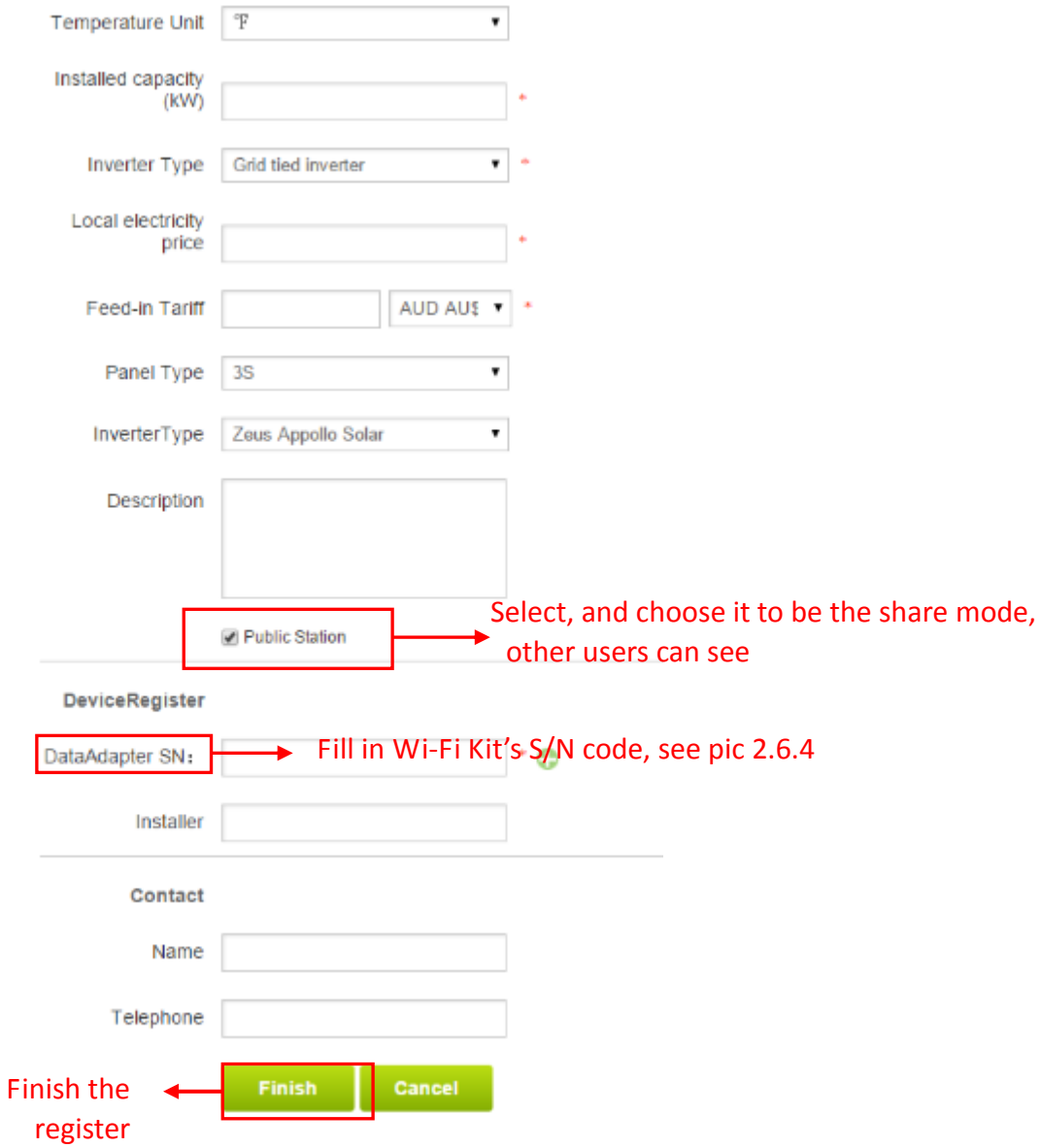
Note: please read the Zeus Appollo™ service agreement carefully, the enclosure is the cost list for all countries, please choose your operators

Owner means the final user

"*" you must fill it

"Owner" Account


PowerStation
* At most 20 characters
Upload Image
Default.jpg
Click and choose the aim pic
Upload
Click "OK" save the pic
Country
Afghanistan
Province
Afghanistan
City
Street
(Location in the map)
Click the map, choose the installation site
Zip code
Timezone
(GMT +08:00) Beijing,Chongqi
NumberSystem
1234567.89
Temperature Unit
℉
Installed capacity (kW)



Picture 2.6.3

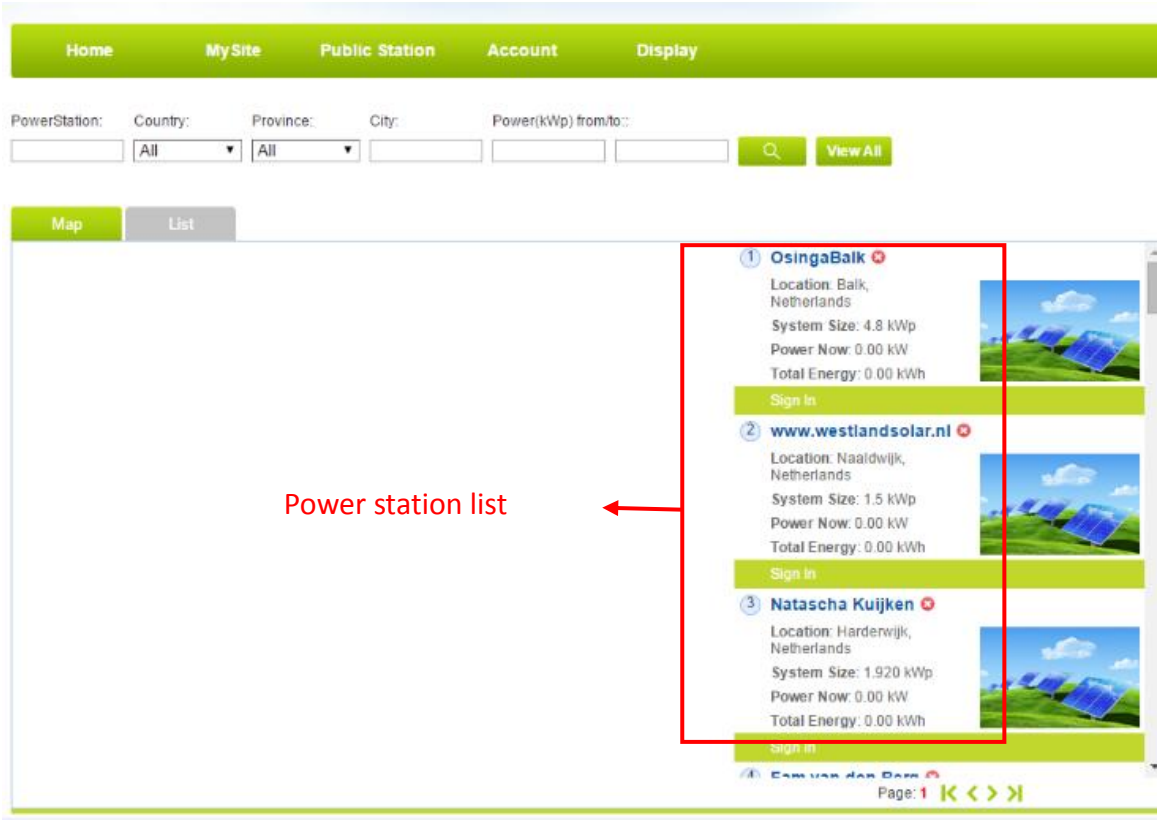
Picture 2.6.4

2.7 Login the PV monitoring system to manage the power station

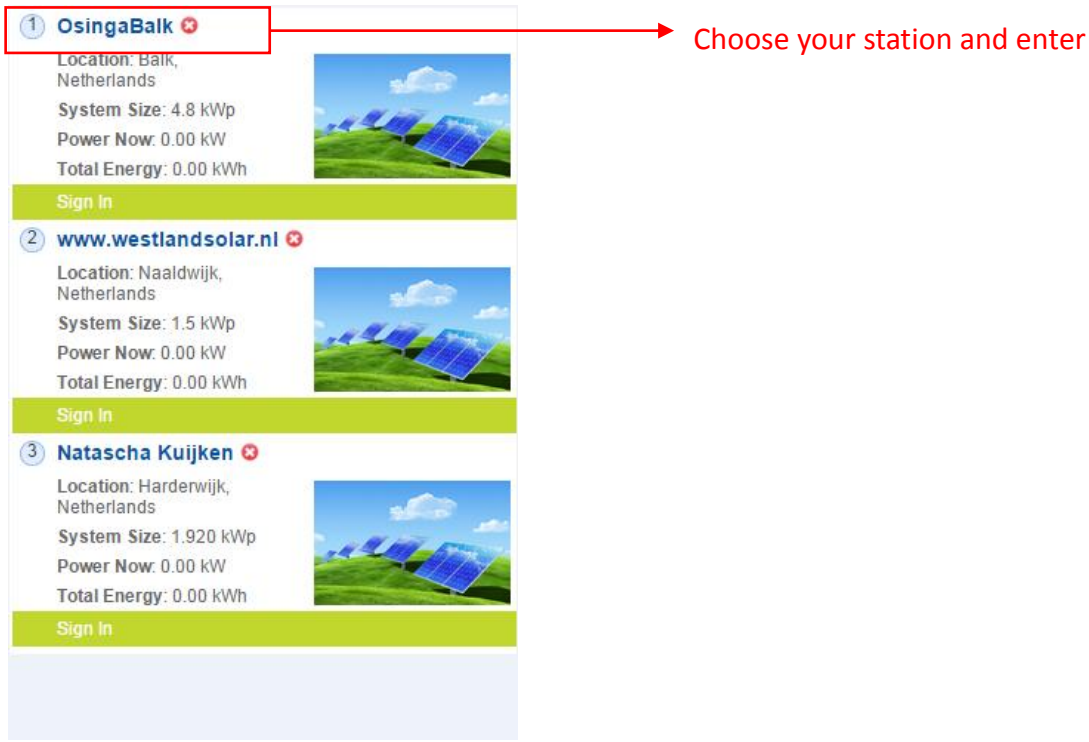
After the successful registration and account activation, open the login interface as below in picture 2.7.1, input the correct email and code and enter the PV monitoring system, then you can monitor and manage the power station.

Picture 2.7.1

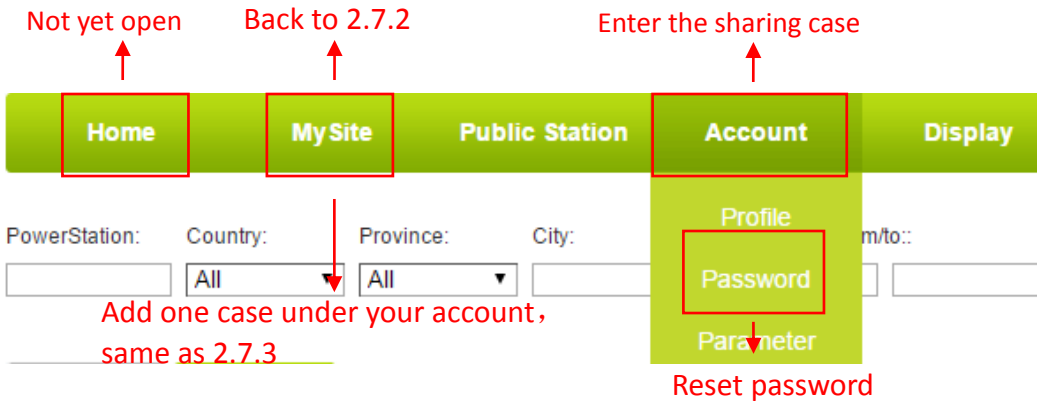
“Owner” User Interface



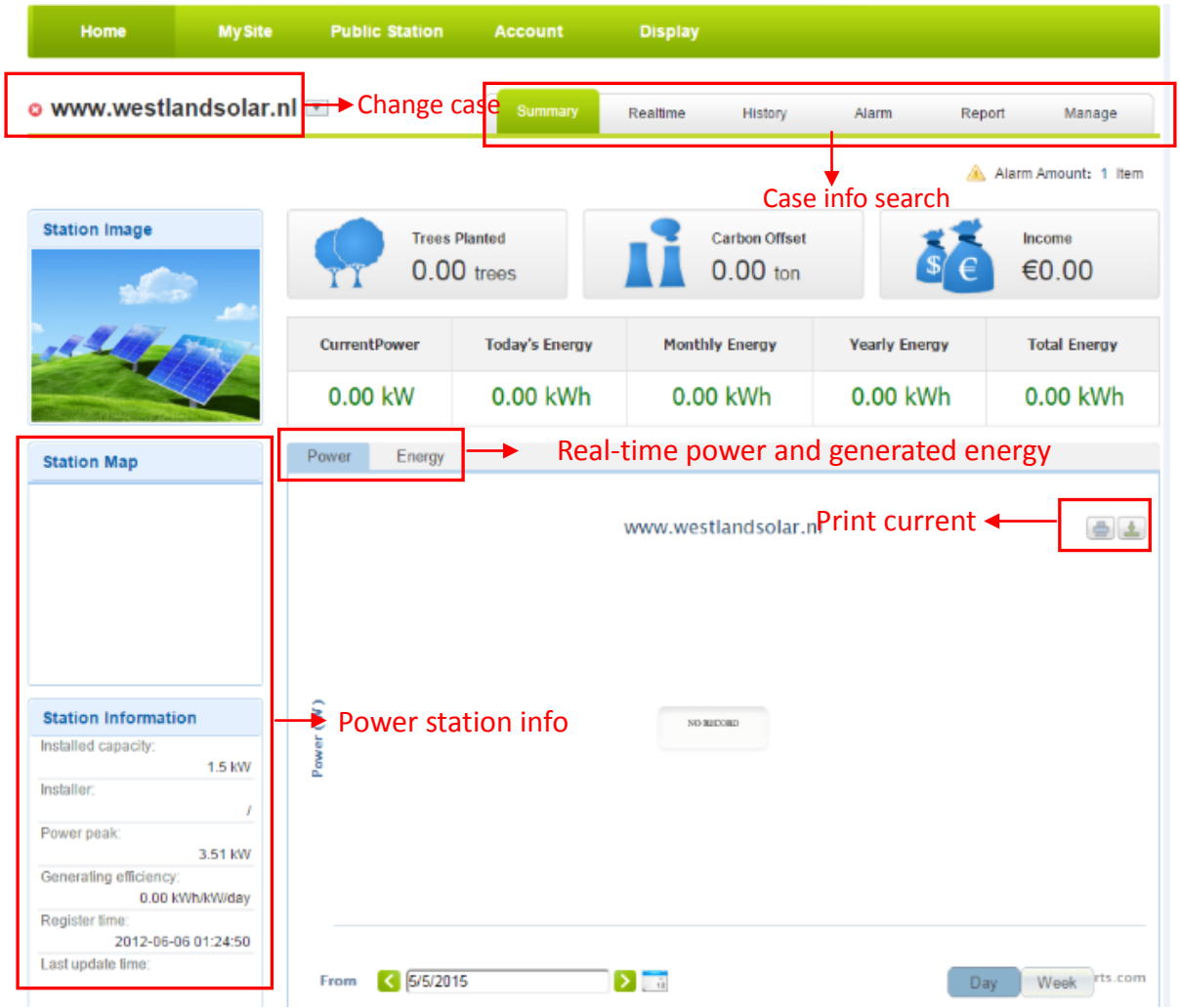
Picture 2.7.2



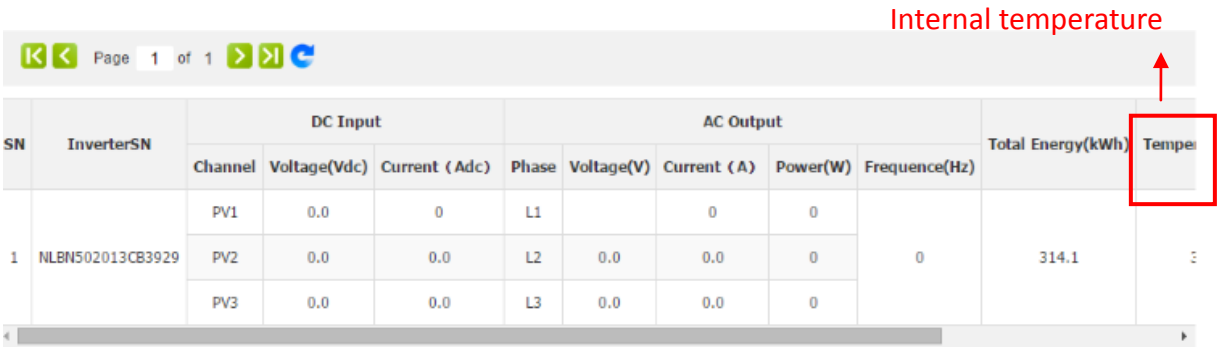
Picture 2.7.3
List of power stations



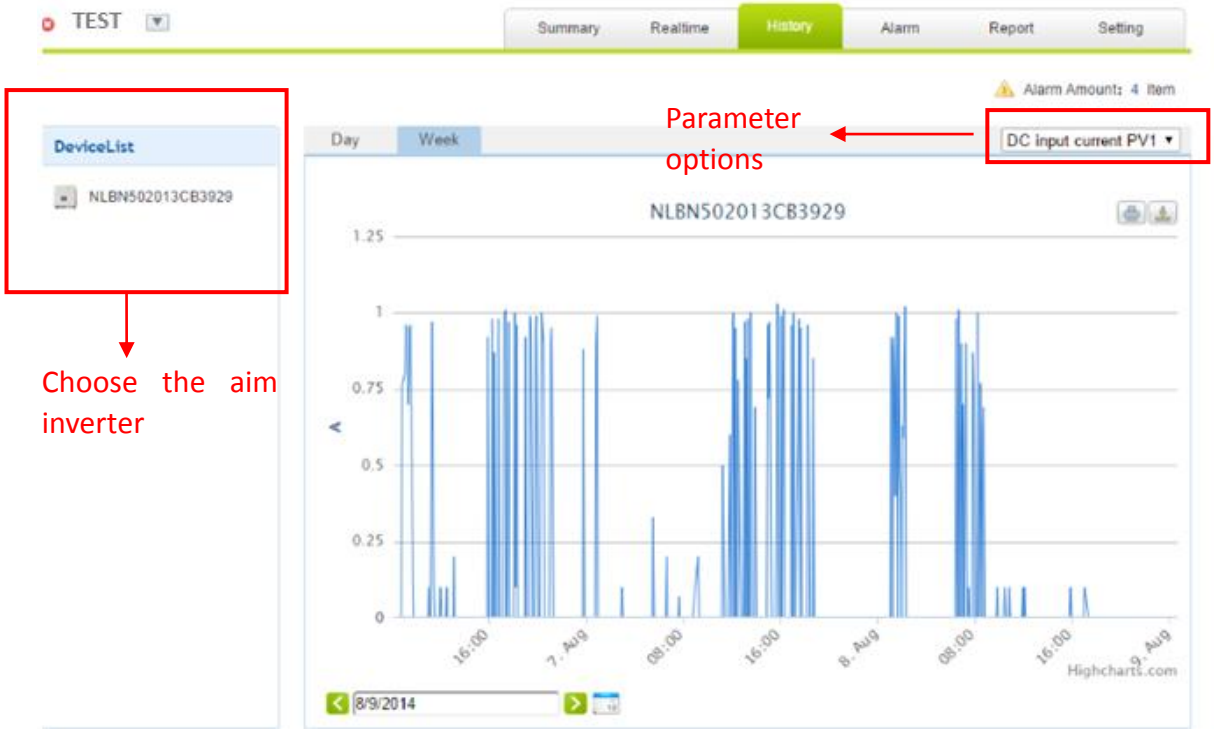
Picture 2.7.4
Navigation Bar



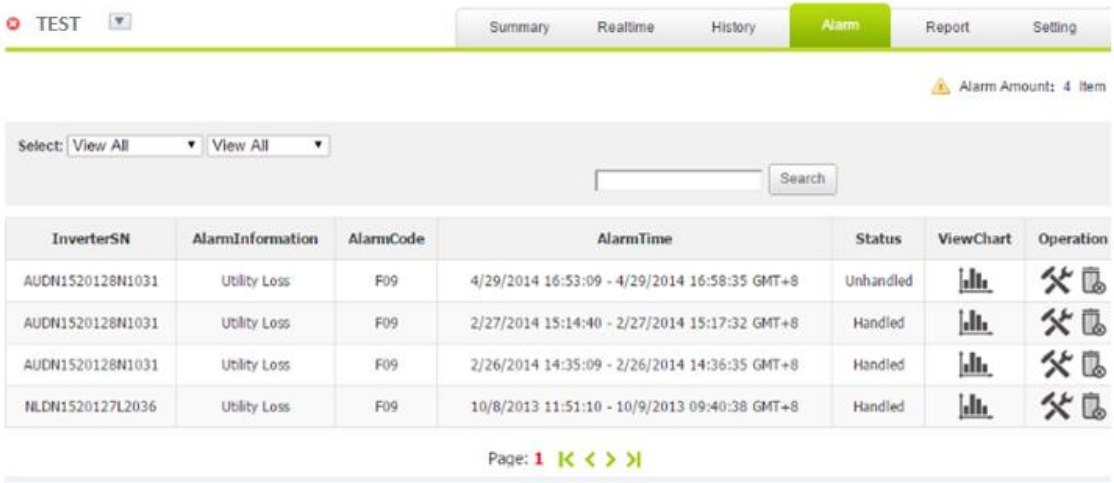
Picture 2.7.5
Main interface of power station



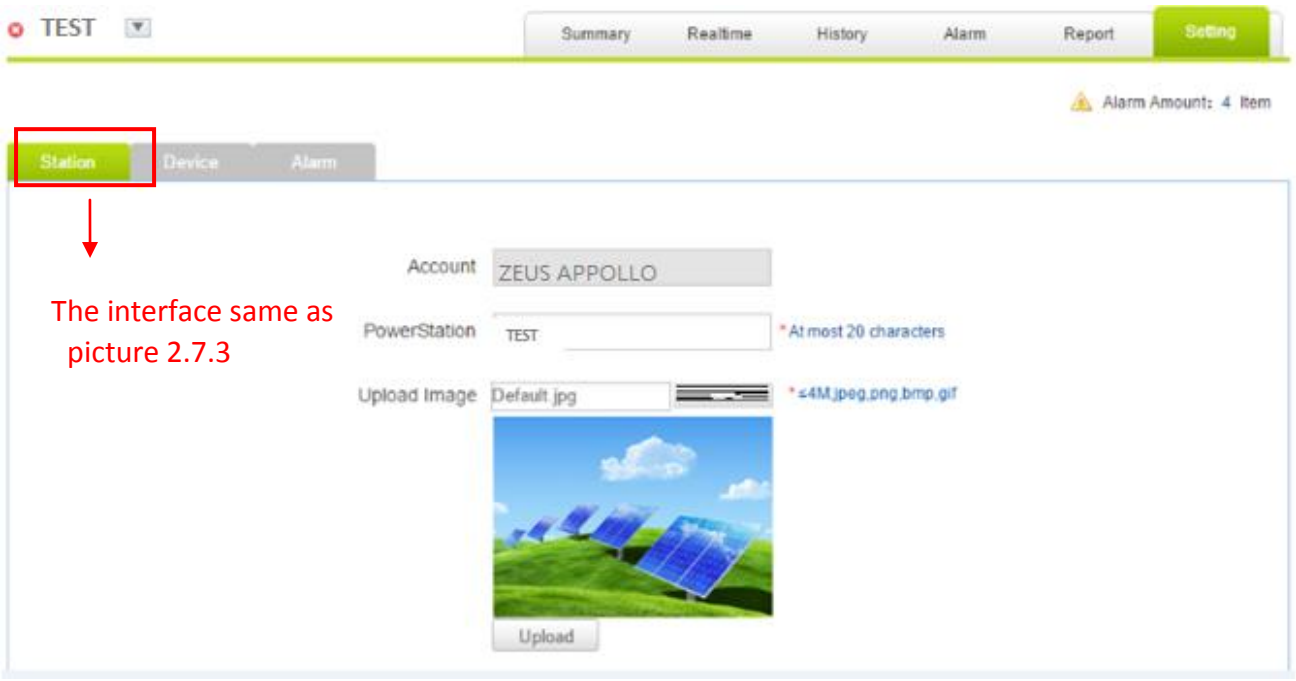
Picture 2.7.6
Real Time Interface



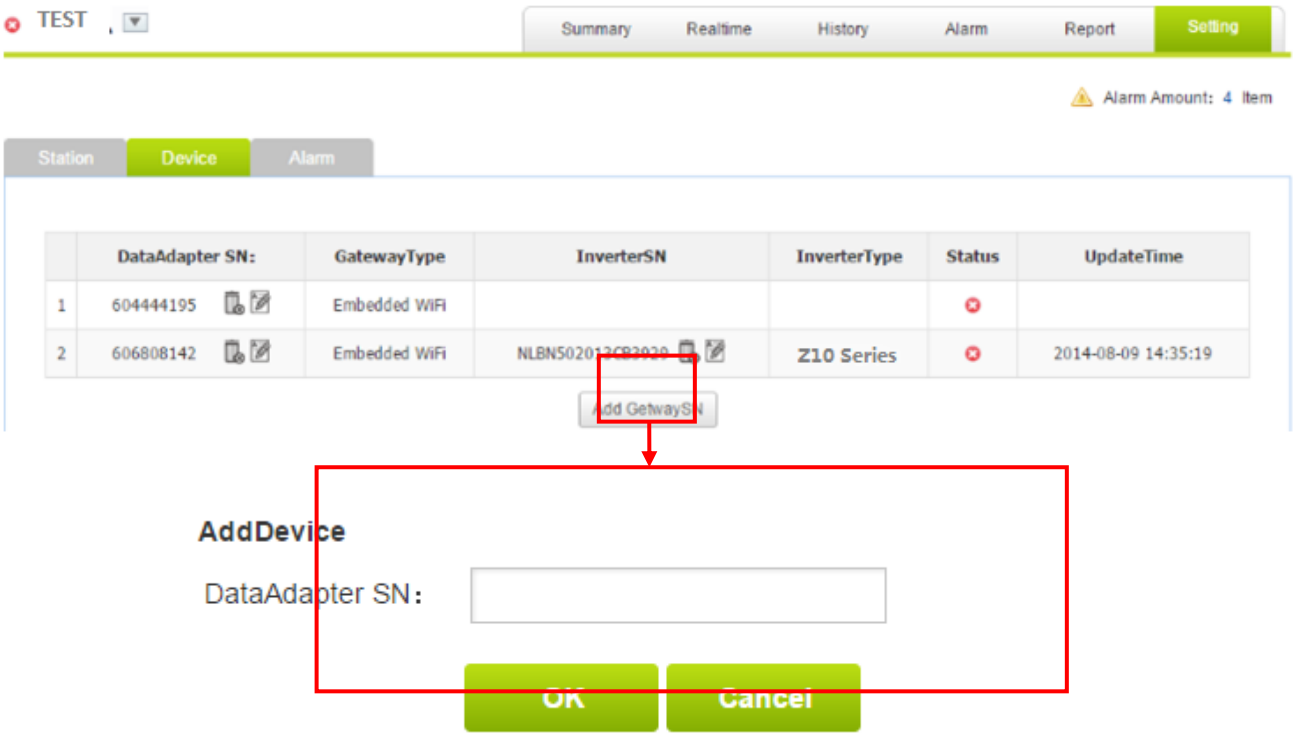
Picture 2.7.7
History Interface



Picture 2.7.8
Alert Interfaces



Picture 2.7.9
System Setting Interface

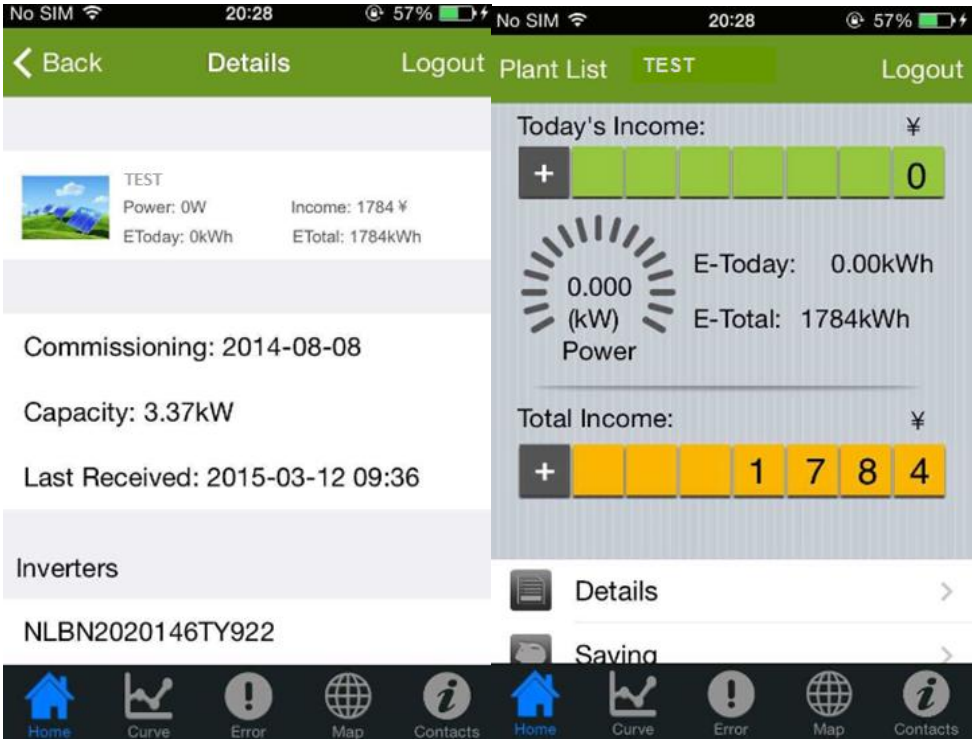


Picture 2.7.10
System Setting Interface

2.8 IPhone & iPad application

After registration of the power station, you can input the key words: Zeus Appollo , solar, inverter, PV, energy ,plant, and monitor at the app store, then you can download the Zeus Appollo (smart phone) and Zeus Appollo HD (iPad) from the app store.

After the app download input your user name and password, then visit your station, (we supply a free demo, for the users who do not register) choose the power station and enter the main interface, then the daily energy output etc. will be displayed. Meanwhile, you can view the relevant date to view the curve as below:



Picture 2.8.1

1. Log in to the interface
2. Connect the Wi-Fi kit ok
3. Setting page
4. Inverter information

2 Contact

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