Omniksol GPRS Kit User Manual

Omnik New Energy Co., Ltd.

Overview of GPRS Kit Functions

Omniksol GPRS Kit is developed by Omnik as an external communication monitoring device, including a SIM card inside, which transfers collected data to the web server through mobile network for users to monitor their systems remotely. The device can distinguish between single-phase and three-phase inverters automatically and indicate current status from LEDs on its front panel.

By connecting with inverters through RS485 interface, the kit can receive information from inverters and realize cascade of inverters.

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

catalog

Part 1. 485 Card Install SOP

1. Disassembly

Picture 1-1

Unscrew the four screws on the interface panel with the screwdriver as shown in Picture1-1 and keep the screws aside.

Picture 1-2

Picture1-3

Unscrew the two-holed water-proofing connector from the interface panel. as shown in Picture1-2，1-3.

2. Install

Pick out the net cable and the water-proofing connector from the package and follow the Picture2-1：A , put the net cable in from the gap, as shown in Picture2-1：B, then put the net cable one after another into the kneck of the interface panel. as shown in Picture2-1：C.
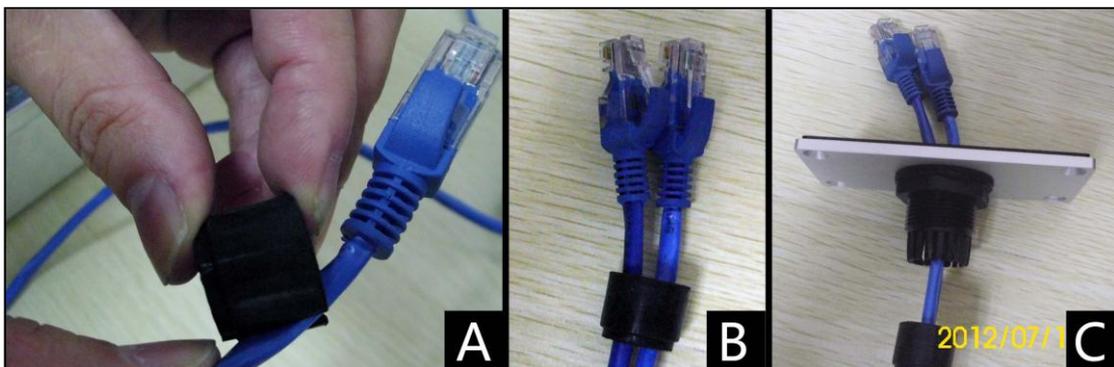
Picture 2-1

Insert the 485 card lightly from the position showed in Picture2-2:A
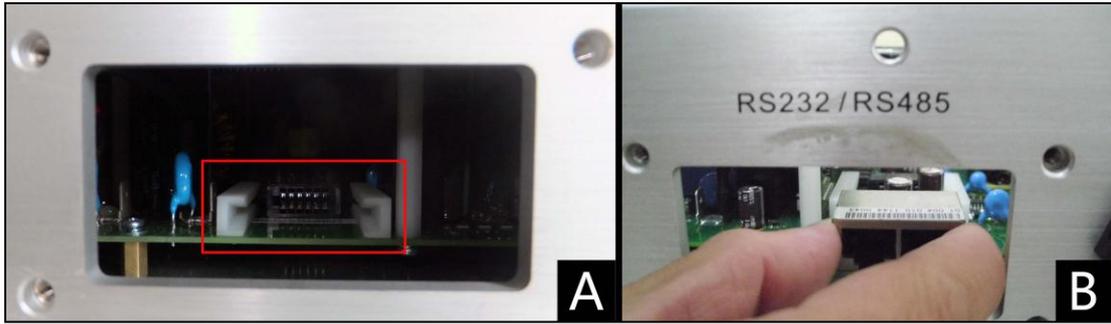
Picture 2-2

Finish the installation ,see Picture2-3：
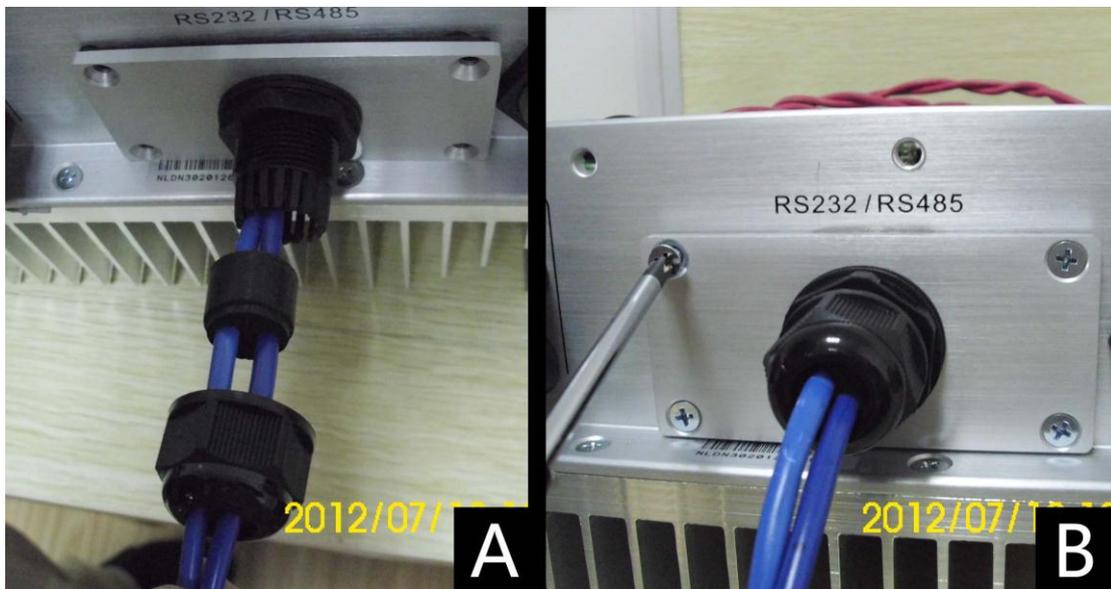
Picture2-3

Part 2. Omniksol –GPRS KIT User Manual

1. Unpack

After unpacking the box, please check the parts according to the below list. Contact the manufacturer immediately, should you find any damage, missing or wrong model of the device or any parts.

SN	Name	Qty （pcs）	Model
A	PV data collector	1	GPRSKIT
B	Power adapter	1	FY0502000
C	screw	2	--
D	Plastic expansion pipe	2	--
E	Quick start guide	1	
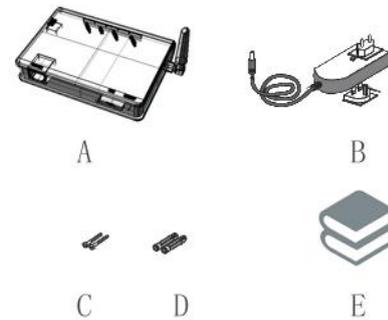
Picture1

2. Installation of SIM card

2.1 If the SIM card is the original card from manufacturer, you can use it directly without any more operation.（you are advised to use a manufacturer original SIM card）.

2.2 If you use a SIM card bought by yourself，there would be two cases：

1. If SIM card enables PIN code，please disable PIN code before installation or usage.

2. If SIM card disables PIN code，it can be used directly.

Note：The SIM card produced by the manufacturer is paired with the machine, so it can only be used together with the Data collector provided by the manufacturer.

3．Installation of the data collector

3.1 Wall-mounted data collector installation

1. Make a drill hole mark at the chosen installation place, the drill hole mark should be 2 horizontal holes with center distance 69mm；

2. Make 2 holes φ6mm with a drill at the mark place, the hole depth should be not less than 30mm

3. Knock the plastic expansion pipe with a rubber hammer into the hole of the wall；

4. Screw 2 screws into the plastic expansion pipe，about 6mm of the screw head should be stretched out；

5. Mount the PV data collector GPRSKIT on the 2 screws in the wall（Picture 2）.

Note：The protection level of the PV data collector GPRS KIT is IP21. It cannot be installed outside or in the humid, dusty place, or some place with corrosive steam. It also should avoid the sunshine. What's more, as metal construction would have shielding effect on wireless signal, the data collector antenna should be far away from the other metal construction for at least 10m from all directions.
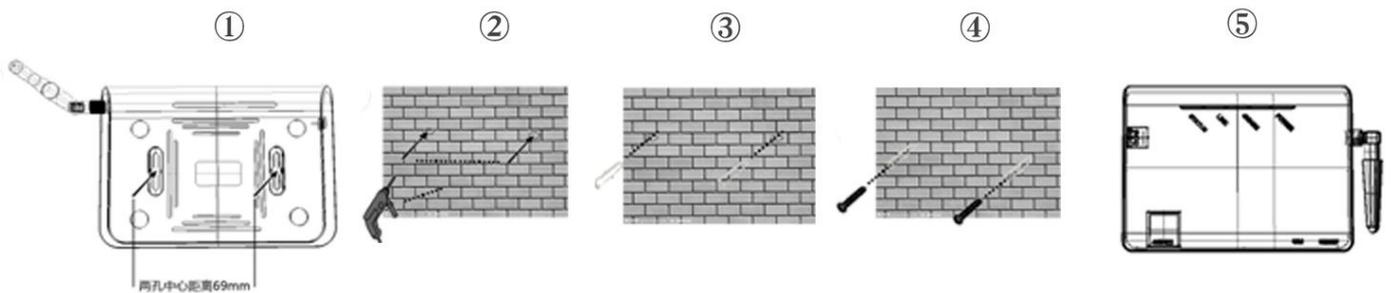
Picture2

3.2 Horizontal data collector installation
Put the data collector on a fixed flat surface.

Note：The protection level of the PV data collector GPRS KIT is IP21. It cannot be installed outside or in the humid, dusty place, or some place with corrosive steam. It also should avoid the sunshine, quake and pressure.   What's more, as metal construction would have shielding effect on wireless signal, the data collector antenna should be far away from the other metal construction for at least 10m from all directions.

4. Connecting data collector and PV inverter

4.1 Data collector interface and connecting wire interface

Picture 3

RJ45 crystal head

Line sequence of T568B

1. *orange with white*
2. *orange*
3. *green with white*
4. *blue*
5. *blue white white*
6. *green*
7. *brown with white*
8. *brown*
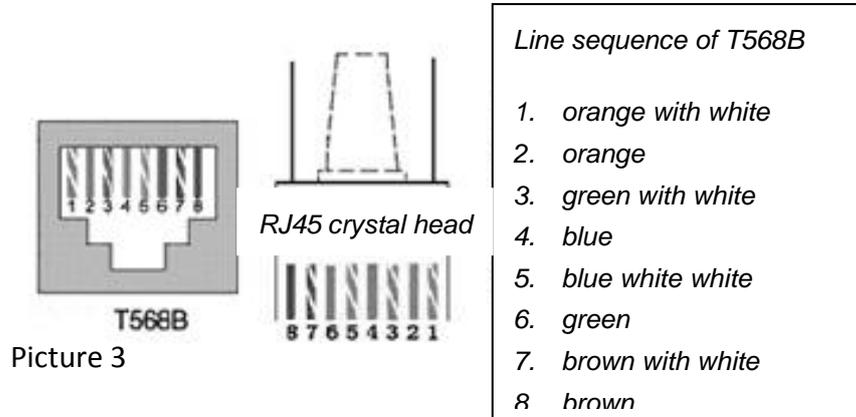
Pin NO.	RS485	RS422
1	NC	NC
2	NC	NC
3	NC	RX+
4	A	TX+
5	B	TX-
6	NC	RX-
7	GND	GND
8	GND	GND

Picture 4

No.	Function
A	RS485/422 interface
B	SIM card interface
C	Power adapter interface
D	Antenna interface

4.2 Connecting procedure

Both ends of the connecting wire are RJ45 network cable connector，all the line sequence are T568B.

4.2.1 Single inverter connection

1. cut off the power of the inverter；

2. Plug one end of the network cable into any RJ45 port of the inverter;
3. Plug the other end of the network cable into the RS485/422 port of PV data collector GPRS KIT.
4. Connect the power adapter with the data collector and plug into the outlet, and turn the inverter switch on.

4.2.2 Multiple inverter connection

1. cut off the power of the inverter；

2. Plug one end of the network cable into any RJ45 port of any one inverter;

3. Plug the other end of the network cable into any RJ45 port of the second inverter；

4. Cascade all the inverters that need monitoring with the same method；

5. Use a network cable to connect PV data collector GPRS KIT with the first or the end inverter of the inverter serial，making up the series LAN, as in picture 5；

6. Connect the power adapter with the data collector and plug into the outlet, and turn the inverter switch on.
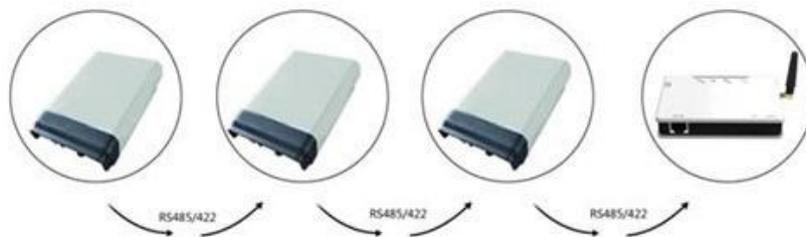
Picture 5

Note：Before connection, you must cut off the power of the inverter. Please make sure all the connections are finished before switching on the power in the inverter and data collector. Otherwise it would cause person injury or equipment damage.

5. Debugging

5.1 LED indicators
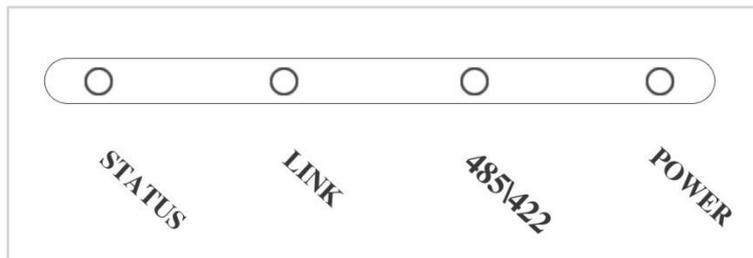
Picture 6

5.2 Normal connection status instructions

Under normal condition，after GPRS Kit data collector and inverter are powered on for 30 seconds, four indicator status are: POWER and STATUS: LEDs are On；LINK and 485/422: LEDs are On or blinking. If after the system has been powered on for 1 minute, the 4 indicators are not in the above status, please solve the problem according to below common problems and solutions.

Indicator name	status	Status instruction
POWER	On	Power is normal
	Off	Power is abnormal
485\422	On	Data collector connects well with inverter.
	blinking	Data collector is in data transmission with inverter.
	Off	Data collector is not correctly connected with inverter.
LINK	On	Data collector connects well with the server.
	blinking	Data collector is in data transmission with the server
	Off	Data collector is not correctly connected with the

	On	GSM module is normal, signal strength is good.
STATUS	blinking	GSM module is normal, signal strength is so so.
	Off	GSM module is normal, signal strength is bad; or GSM module is abnormal. Note：GSM module abnormal means GSM module has not been registered on the Internet.

5.3 Common problems and solutions

phenomenon				Possible reasons	solutions
POWER	485/422	LINK	STATUS		
on	on	on	on	Normal connection, no data transmission	normal，need no further handling
on	blink	blink	on	Normal connection, in data transmission	normal，need no further handling
off	off	off	off	No power supply	Connect the power; make sure the power is in good connection.
on	off	X	X	Inverter in bad connection	Check if the connecting wire is right，and make sure the connecting wire is according to T568B line sequence. Please use professional network cable tester to test.
					Make sure the stability of the RJ-45 connector.
					Make sure the inverter is in normal working status.
on	X	X	blink	GSM signal is too weak	Change the installation place of the equipment or the place of the antenna，search for a place with good signal quality

				The antenna connection is not good.	Check if the antenna connection is not good; If so please tighten it.
on	X	X	off	GSM signal is weak	Change the installation place of the equipment or the place of the antenna，search for a place with good signal quality
				No SIM card or SIM card is in bad connection.	Take SIM card out and reinstall.
				GSM module is in abnormal working condition.	Turn the power on again；
				If the SIM card enables PIN code protection	Disenable the PIN code protection
				The SIM account is overdue.	Please check the SIM account, if the account owes a fee please recharge the account.
				SIM card is a card abroad.(not China)	Please contact the manufacturer customer service.
on	on	off	on	Fail to connect with the remote server	Please contact the manufacturer customer service.
Note 1： X means the status is uncertain. Note 2: if you have operated as above, the equipment still can't work normally, please reset the equipment. If you reset it the equipment still can't work normally, please contact the manufacturer customer service.					

5.4 Reset operation instruction

If you want to reset the data collector, please click and hold the reset button, at this moment the status of 4 signal lights is the same with the status before reset operation. The reset operation successes until all signal lights are off but the POWER signal light.

6. Register the login website

You can use the web browser that the PV monitoring website supports: IE8，Firefox，Chrome，safari. Input the Omnik Portal login website：http://www.omnikportal.com/，open the login interface as below picture 6-1, click"register"and enter the register interface, fill in and submit the document according to the demand. After the user's information upload onto the server and the register finishes successful, please enter your email to activate your account. Then the register is finished.

6.1 Click Register button to go to registering interface for new account

Click and enter the register interface

Picture 6-1

6.2 Fill in user's information as required

Picture 6-2

Remarks: please read the <Omnik service agreement >carefully, the enclosure is the cost list for all the countries, please choose your operators

Owner *means the final user*

6.2.1 "Owner" Account
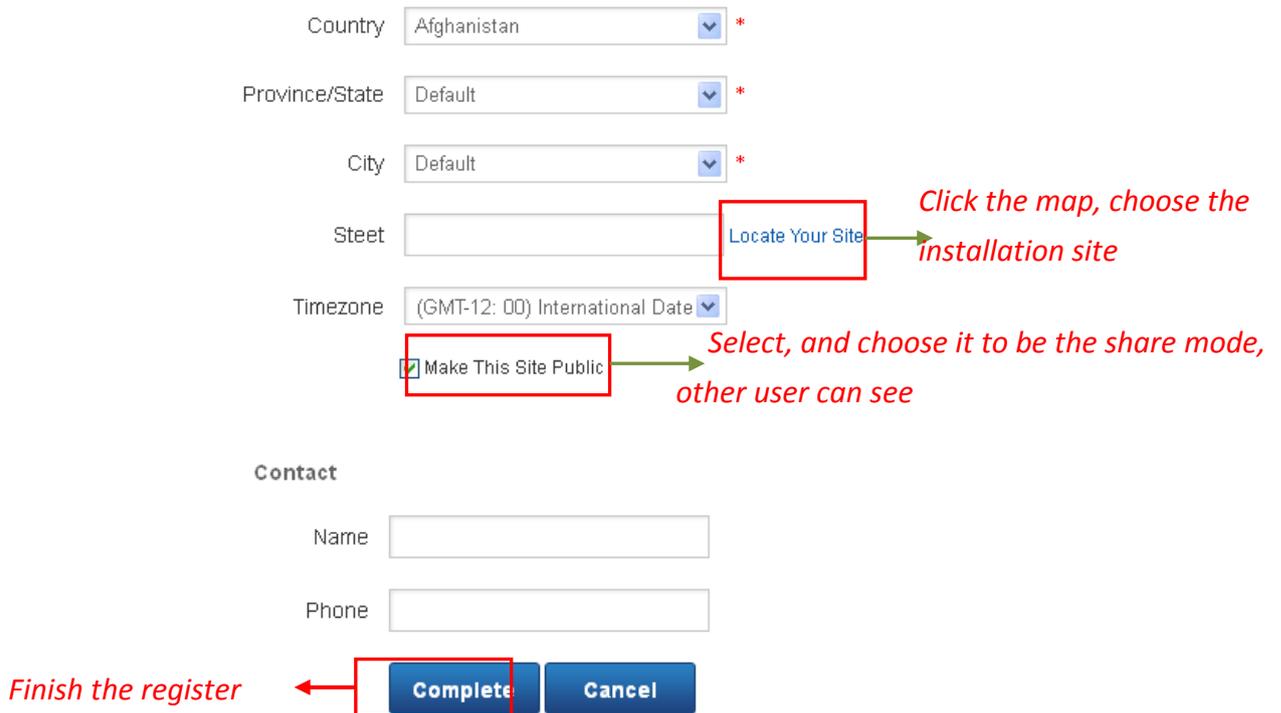
Click the map, choose the installation site

Select, and choose it to be the share mode, other user can see

Finish the register

Picture 6-3

Picture 6-4

7. Login the PV monitoring system to manage the power station

After the successful register and account activation，open the login interface as below picture 7-1, input the correct email and code and enter the PV monitoring system, then you can monitor and manage the power station.

Picture 7-1

7.1 "Owner" User Interface

Picture 7-2

Choose your aim station

Edit or delete the case
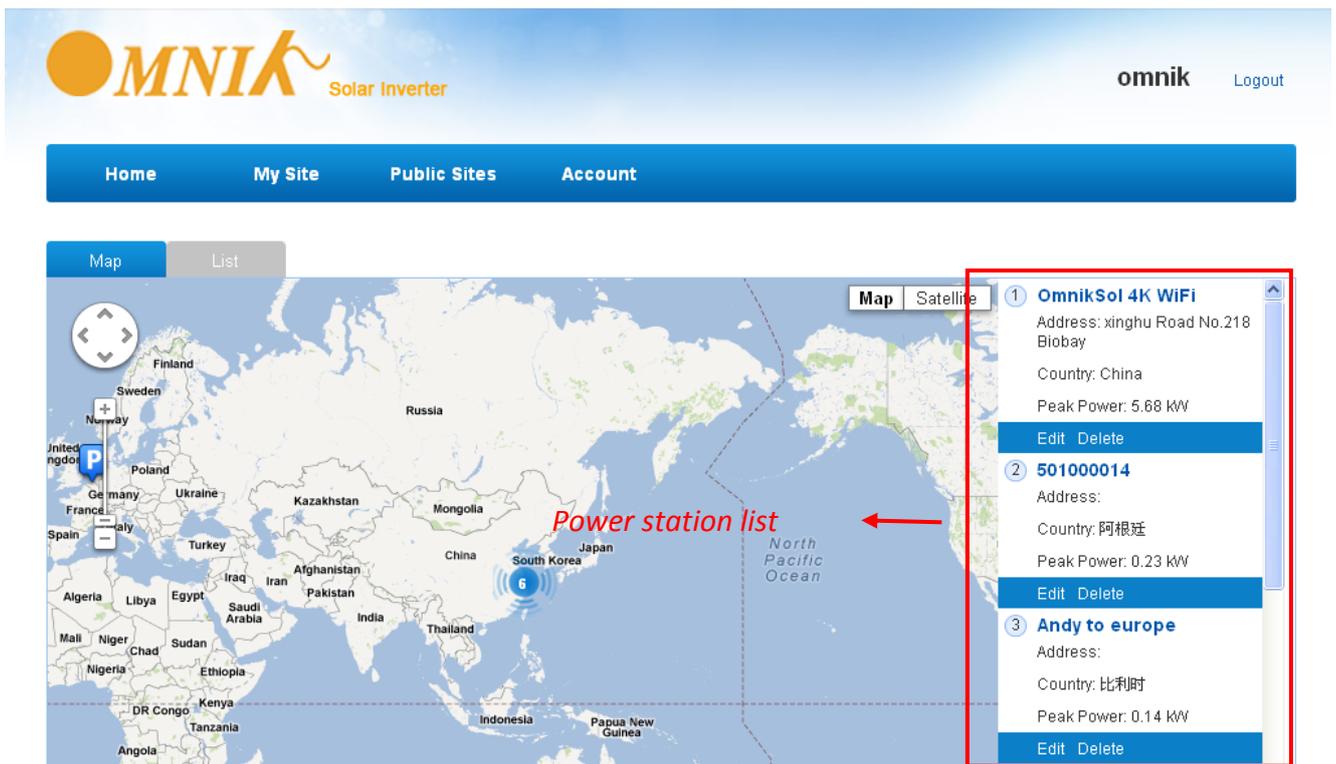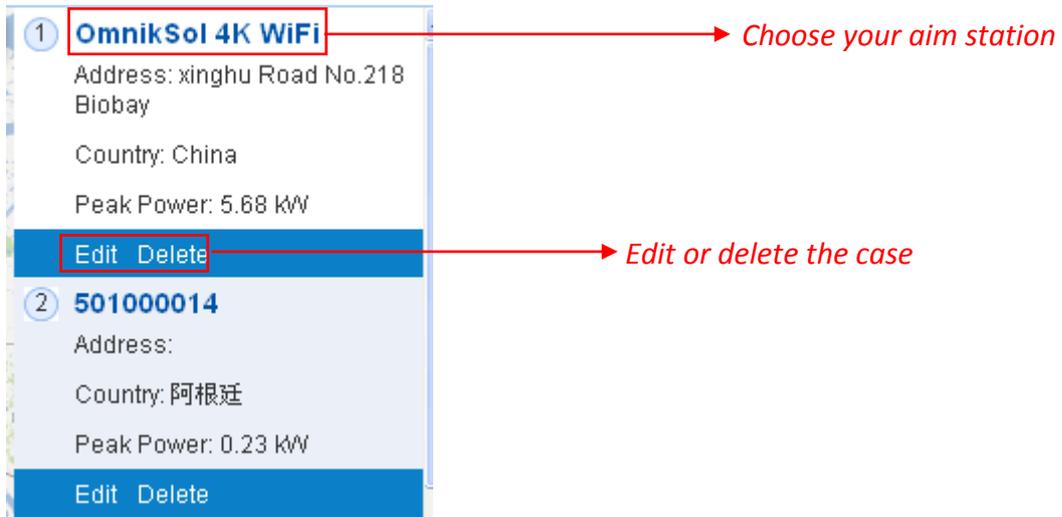
Picture 7-3 List of power stations

Not yet open   Back to 7-2 interface   Enter the sharing case   Enter the configure "company account" interface

Home   My Site   Public Sites   Account

Add a Site   Password

Add one case under your account，same as 7-3

Reset password
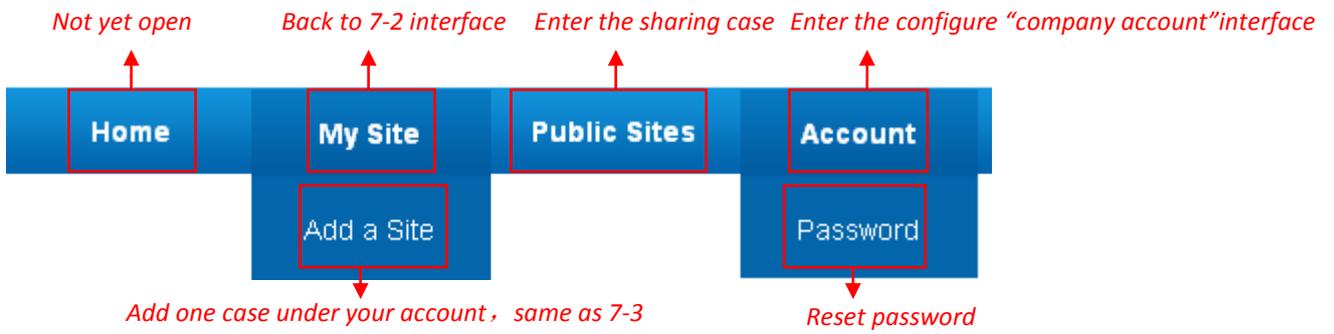
Picture 7-4 navigation bar

Home   My Site   Public Sites   Account

OmnikSol 4K WiFi ▼ → *Change case*   Overview   Real Time   History   Alert   System

5/23 Chance of Rain 64-75F | 5/24 Chance of Rain 63-72F | 5/25 Chance of Rain 61-72F   ⚠ Alerts: 563 Items

Case info search

Power Now	Today Energy	Monthly Energy	Yearly Energy	Total Energy
0.00 kW	0.30 kWh	105.81 kWh	1675.28 kWh	1730.6 kWh

Power   Energy → *Real-time power and generated energy switchover*

Print current figure

Site Image

Location

Power station info

Site Profile
Installed Capacity 2 kW
Inverter 品牌 1
Panel 3 S

OmnikSol 4K WiFi

(Power graph with axis Power (W) from 0 to 600, time from 05:30 to 08:30)

From < 5/23/2012 >   Day   Week   Time

Trees Planted   Carbon Offset
73.55 trees   1.73 ton

Energy saving

Picture 7-5 Main interface of power station
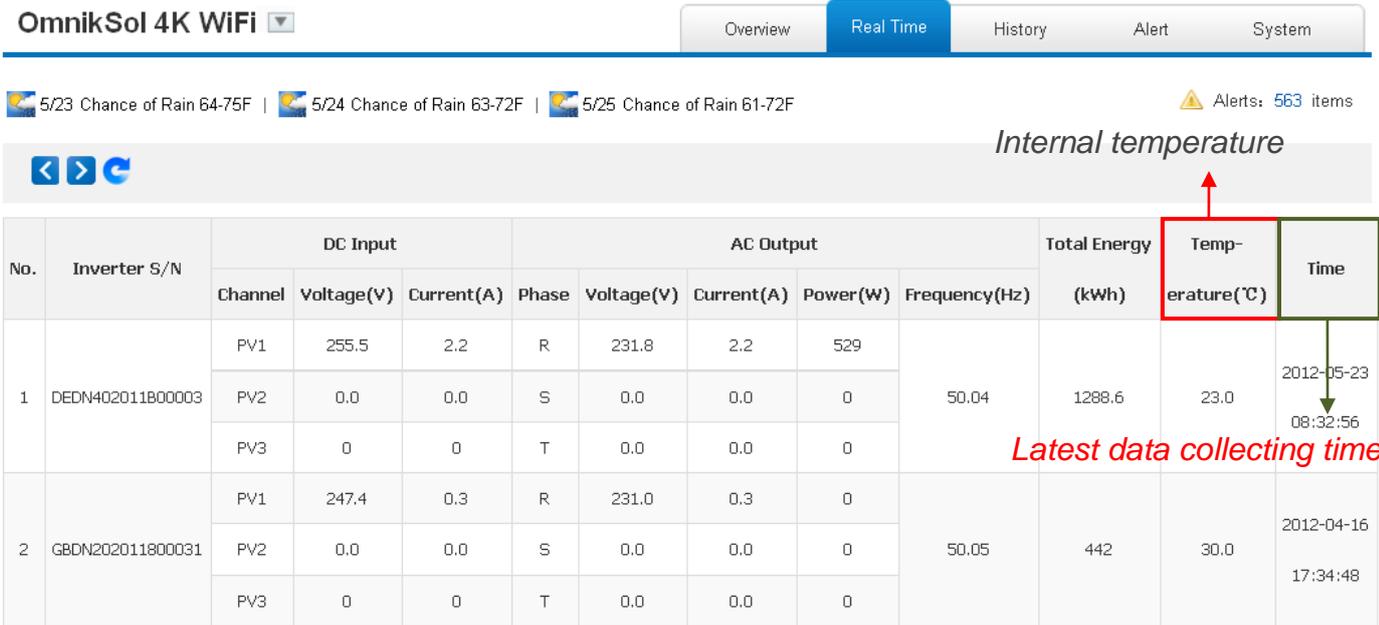
Picture 7-6 Real Time Interface
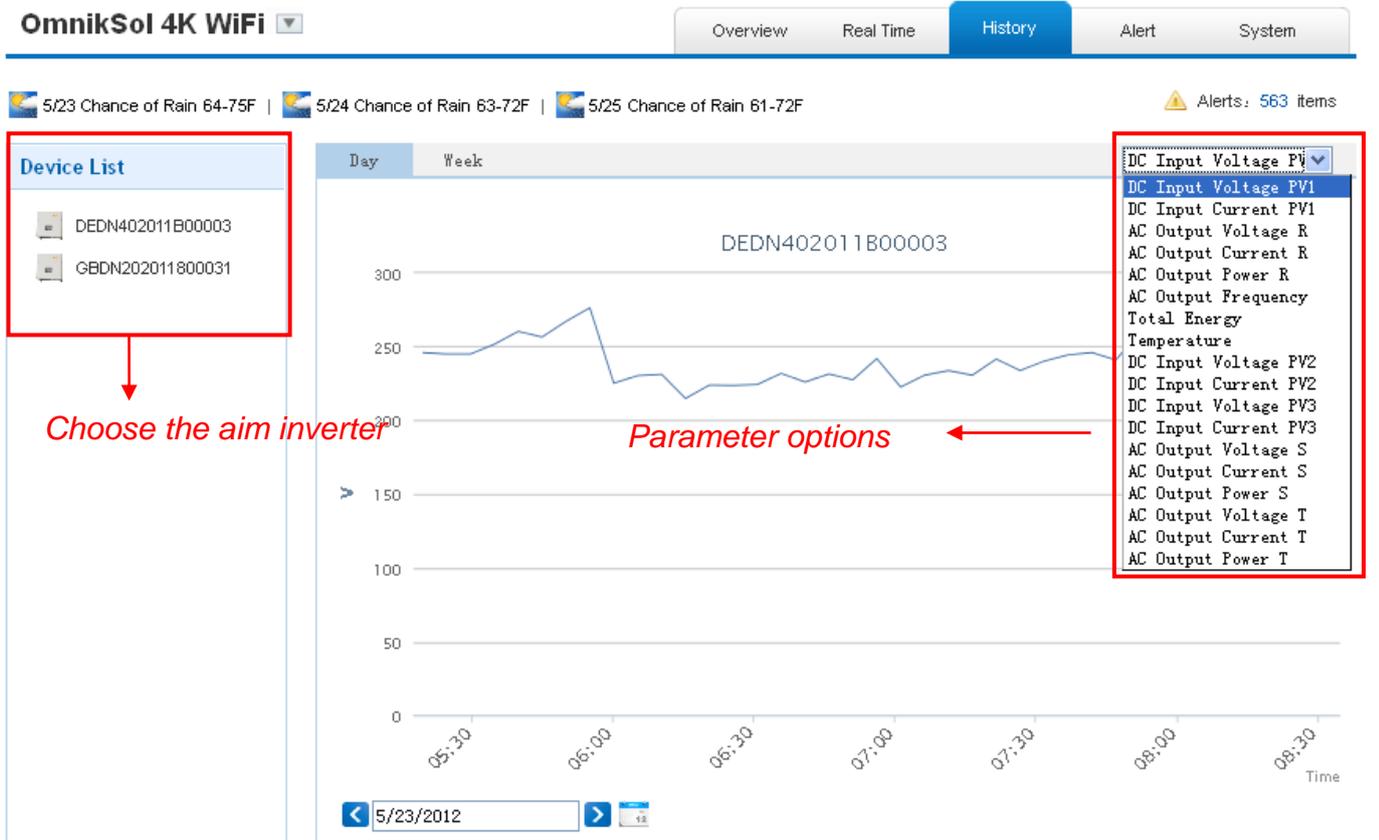
Picture 7-7 History Interface

Picture 7-8 Alert Interfaces

Picture 7-9 System Setting Interface

Picture 7-10 System Setting Interface

8. IPhone & iPad application

After registration of the power station, you can input the key words: Omnik ,solar, inverter, PV,

energy ,plant, monitor at the app store, then you can download the Omnik solar (iPhone) and Omnik Solar HD(iPad) at app store.

After the 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 you the daily energy etc. will be displayed. Meanwhile, you can view the relevant date to view the curve as below:
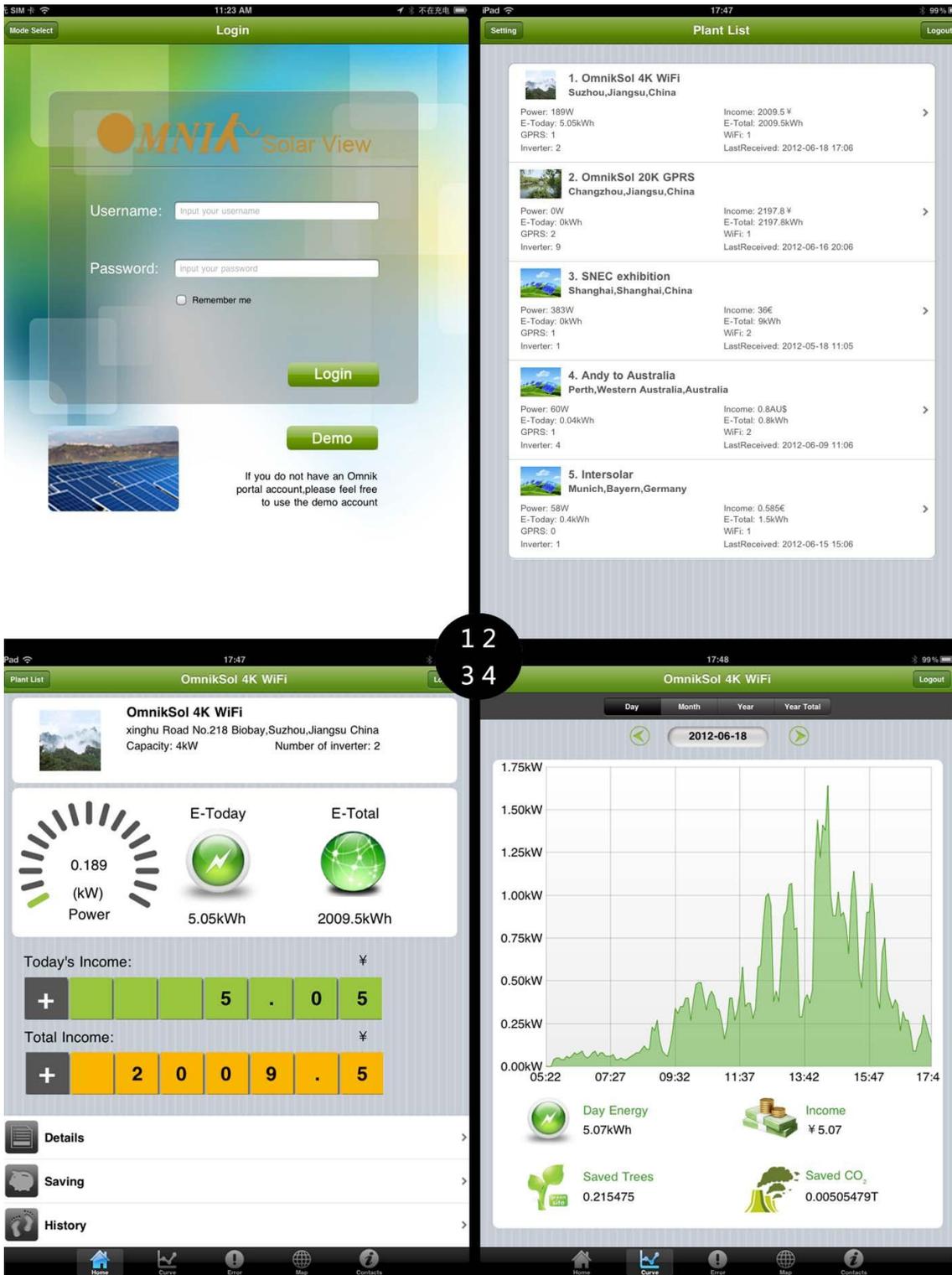
Picture 8-1

1. Log in interface

2. Power station list interface

3. Main interface

4. Daytime curve interface

9. Contacts

If you have any technical problems about our products，please contact us，you should confirm the follow things before contact us:

◆ Device model
◆ Data collector serial number
◆ The number of connected inverter

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