



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

- 1. RS485 Card Install SOP 2
 - 1.1 Disassembly 2
 - 1.2 Installation 3
- 2. Omniksol –GPRS KIT User Manual 5
 - 2.1 Unpack 5
 - 2.2 Installation of SIM card 5
 - 2.3 Installation of the data collector 5
 - 2.4 Connecting data collector and PV inverter 7
 - 2.5 Debugging 9
 - 2.6 Register the login website 12
 - 2.6.1 Go to interface 12
 - 2.6.2 Fill in user’s information as required 13
 - 2.7 Login the PV monitoring system to manage the power station 14
 - 2.8 iPhone & iPad application 21
- 3. Contact 23

1. RS485 Card Install SOP

1.1 Disassembly



Picture 1.1.1

Unscrew the four screws on the interface panel with the screwdriver as shown in Picture 1.1.1 and keep the screws aside.



Picture 1.1.2



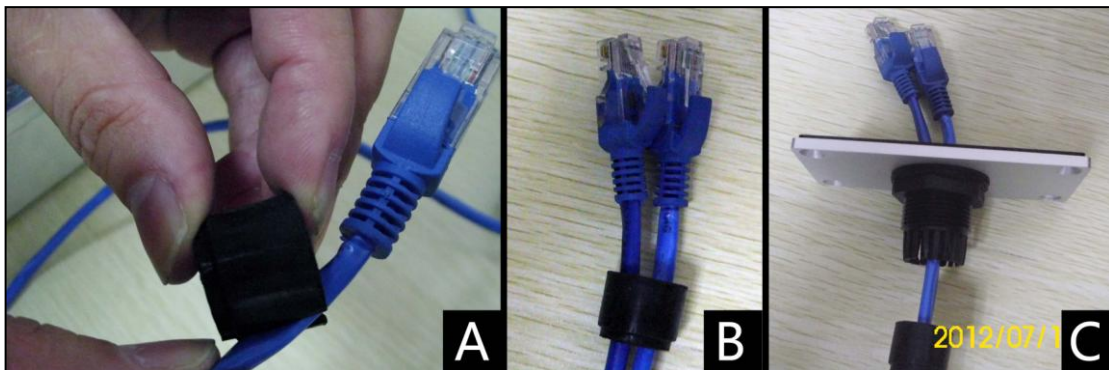
Picture 1.1.3

Unscrew the two-holed water-proofing connector from the interface panel. as shown in Picture 1.1.2, 1.1.3.

1.2 Installation

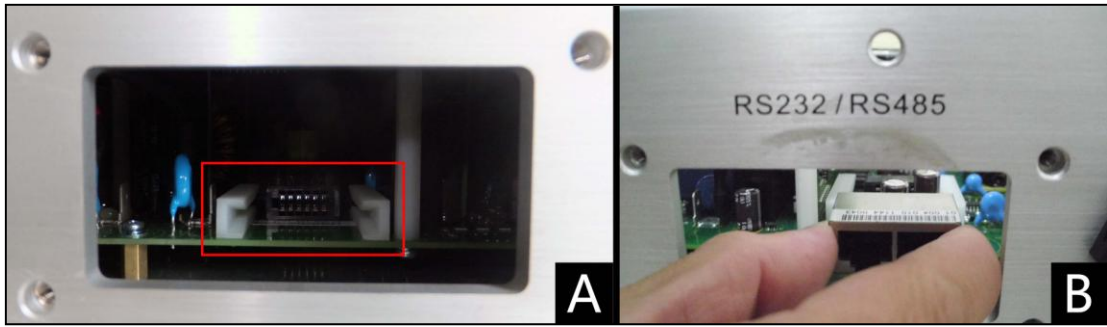
Pick out the net cable and the water-proofing connector from the package and follow the Picture 1.2.1 :

- A. Put the net cable in from the gap
- B. Put the net cable one after another into the kneck of the interface panel



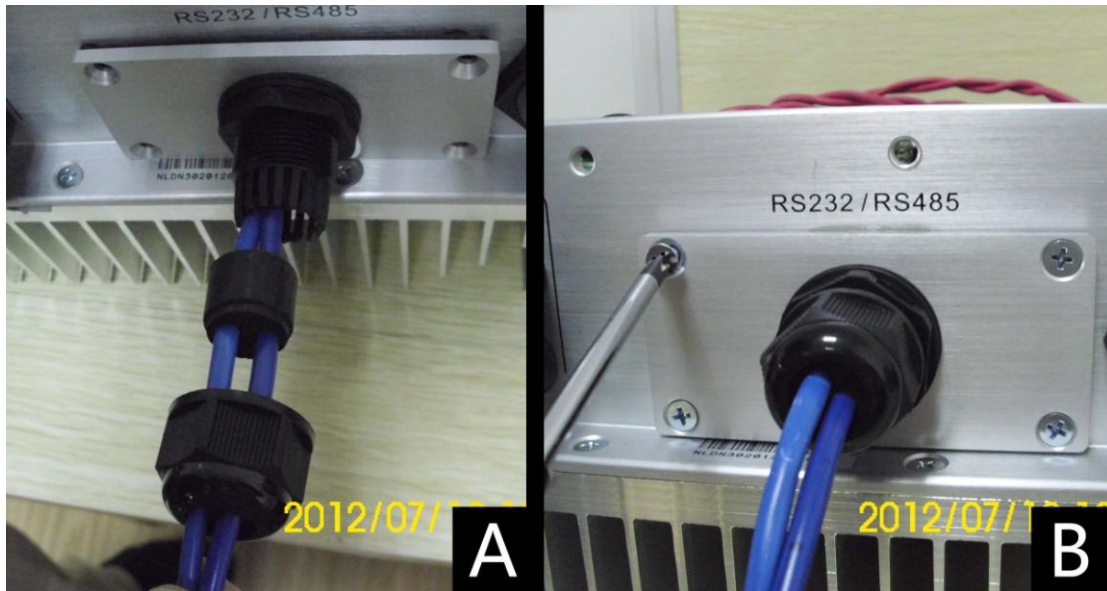
Picture 1.2.1

C. Insert the 485 card lightly from the position as follow picture



Picture 1.2.2

D. Finish the installation ,as Picture 1.2.3 :



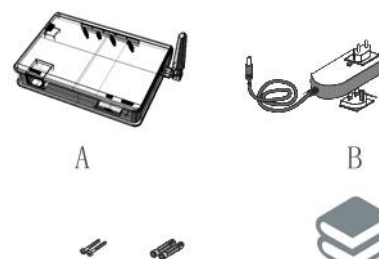
Picture 1.2.3

2. Omnisol –GPRS KIT User Manual

2.1 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	--



Picture 2.1.1

2.2 Installation of SIM card

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) .

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.

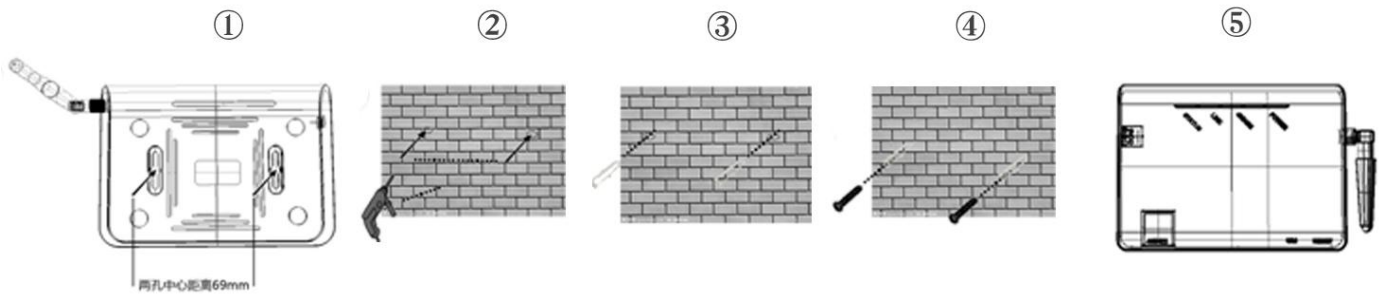
2.3 Installation of the data collector

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 $\phi 6\text{mm}$ 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 2.3.1)

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.



Picture 2.3.1

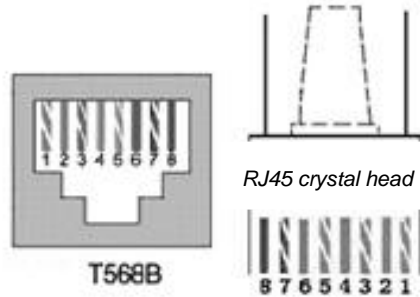
Horizontal data collector installation

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.

2.4 Connecting data collector and PV inverter

Data collector interface and connecting wire interface



Picture 2.4.1

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 2.4.2

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

Connecting procedure

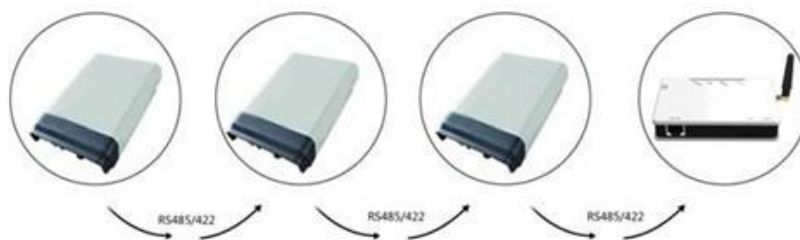
Both ends of the connecting wire are RJ45 network cable connector , all the line sequence are T568B.

A. 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.

B. 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 2.4.3
6. Connect the power adapter with the data collector and plug into the outlet, and turn the inverter switch on.

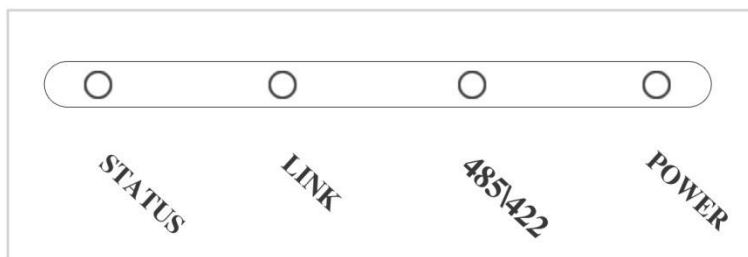


Picture 2.4.3

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.

2.5 Debugging

LED indicators



Picture 2.5.1

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 server.
STATUS	On	GSM module is normal, signal strength is good.
	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.

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	Disable 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.
<p>Note 1: X means the status is uncertain.</p> <p>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.</p>					

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.

2.6 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.

2.6.1 Go to interface

Click Register button to go to registering interface for new account



Picture2.6.1

2.6.2 Fill in user's information as required

中文 | English

MNIK Solar Inverter

Create a New Account



Email: * Please input a valid Email address, used for login and password retrieving

Account Type: → choose "Owner"

Password: * 6-16 characters, case sensitive

Re-type Password: * 6-16 characters, case sensitive

I accept [Terms of Service](#)

Click and enter the configure ←

Picture 2.6.2

Note: 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

Owner Account

Site Name *

Upload Image → Click and choose the aim pic



→ Click "OK" to save the pic

Capacity(kW) *

Panel

Inverter

→ Fill in GPRS card's S/N code, as pic 2.6.4

Country *

Province/State *

City *

Street [Locate Your Site](#) *Click the map, choose the installation site*

Timezone

Make This Site Public *Select, and choose it to be the share mode, other user can see*

Contact

Name

Phone

Finish the register

Picture 2.6.3



Picture 2.6.4

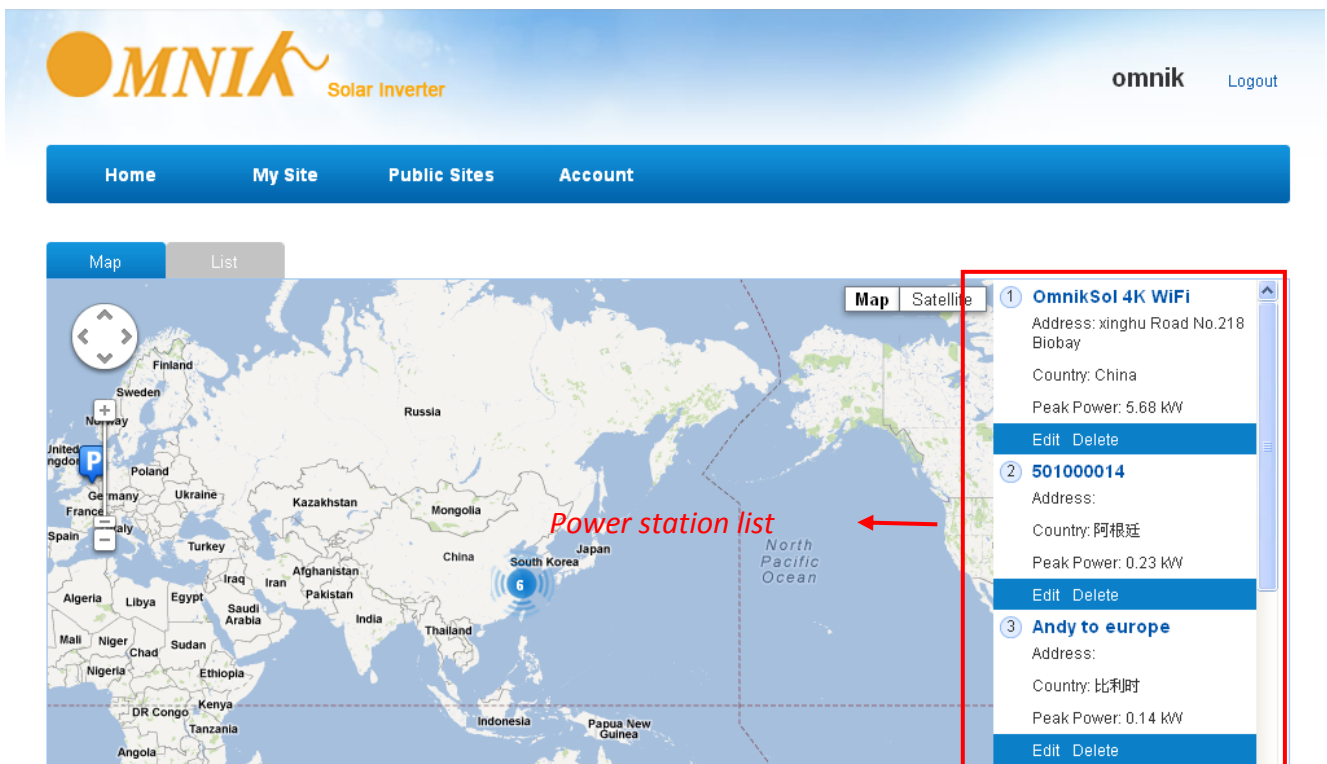
2.7 Login the PV monitoring system to manage the power station

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

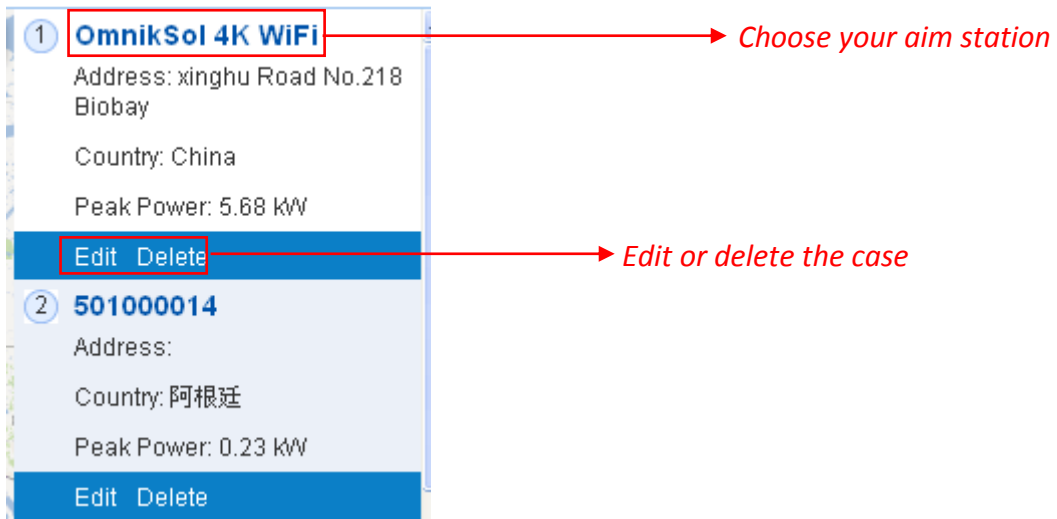


Picture 2.7.1

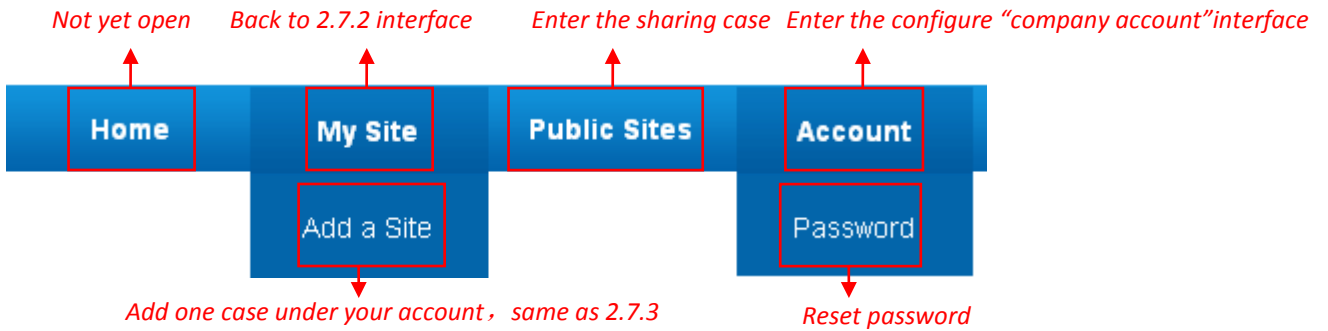
“Owner” User Interface



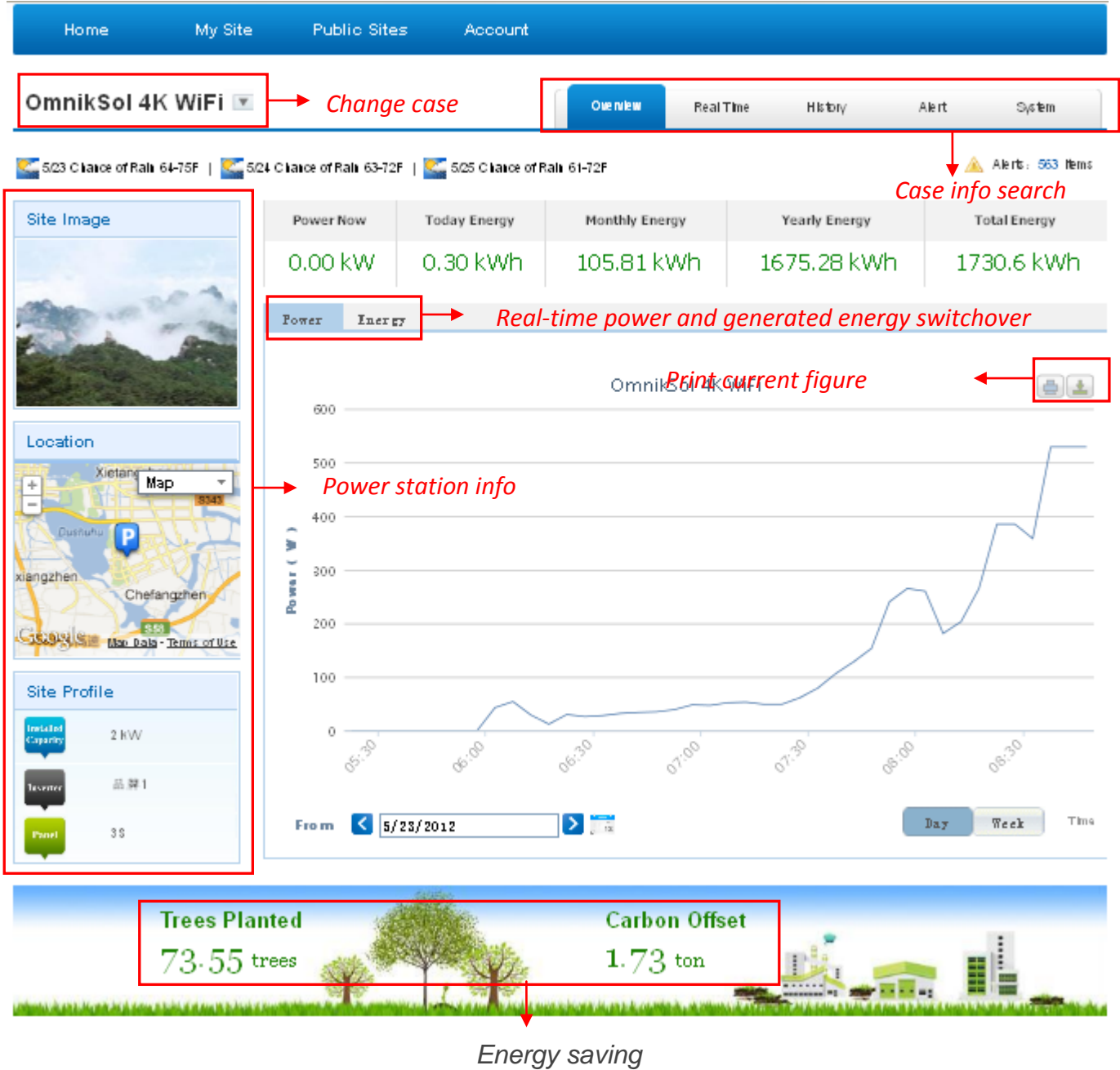
Picture 2.7.2



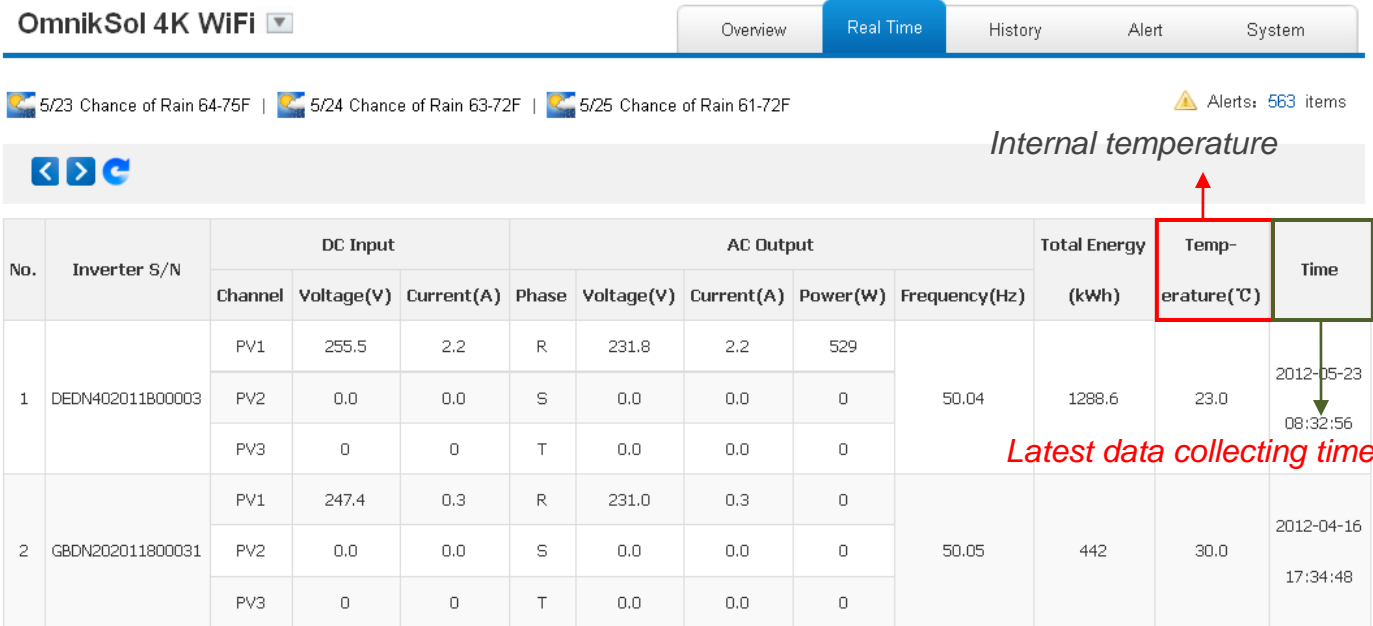
Picture 2.7.3 List of power stations



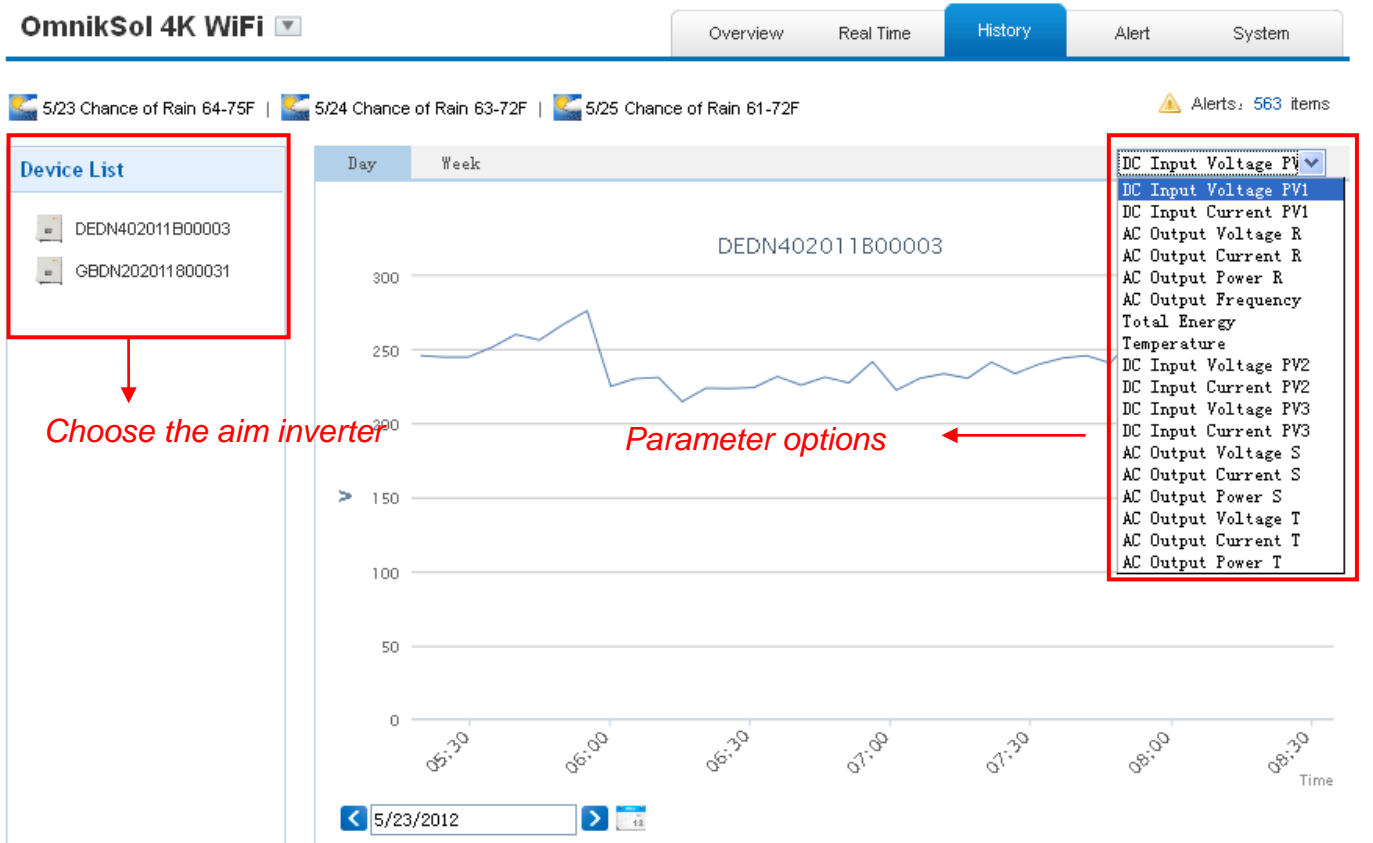
Picture 2.7.4 Navigation Bar



Picture 2.7.5 Main interface of power station



Picture 2.7.6 Real Time Interface



Picture 2.7.7 History Interface

OmnikSol 4K WiFi ▾

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

Select: View All ▾ View All ▾ Page 1 of 57

Inverter	Inverter Manufacturer	Information	Code	Alert Time	Status	View History
DEDN202011800912	Default	Utility Loss	F09	3/8/2012 16:10:38	Unhandled	History
GBDN202011800031	Default	Utility Loss	F09	2/11/2012 11:9:3	Unhandled	History
GBDN202011800031	Default	Utility Loss	F09	2/13/2012 12:56:36	Unhandled	History
DEDN202011800912	Default	Utility Loss	F09	3/8/2012 16:11:38	Unhandled	History
GBDN202011800031	Default	Utility Loss	F09	2/11/2012 11:14:7	Unhandled	History
GBDN202011800031	Default	Utility Loss	F09	2/13/2012 13:1:42	Unhandled	History
GBDN202011800031	Default	Utility Loss	F09	2/11/2012 11:19:10	Unhandled	History
GBDN202011800031	Default	Utility Loss	F09	2/13/2012 13:6:38	Unhandled	History
GBDN202011800031	Default	Utility Loss	F09	2/11/2012 11:24:14	Unhandled	History
GBDN202011800031	Default	Utility Loss	F09	2/13/2012 13:11:42	Unhandled	History

Click, turn to picture 2.7.7 →

Picture 2.7.8 Alert Interfaces

OmnikSol 4K WiFi ▾

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

Site Device

The interface same as picture 2.7.3

Site Name *

Upload Image



Picture 2.7.9 System Setting Interface

OmnikSol 4K WiFi

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

Site

Device

	Datalogger S/N	Datalogger Name	Manufacturer	Operate
1	601230010		Unfound	Delete Edit
2	300000012	网关1	Unfound	Delete Edit

Add

Add

Datalogger S/N

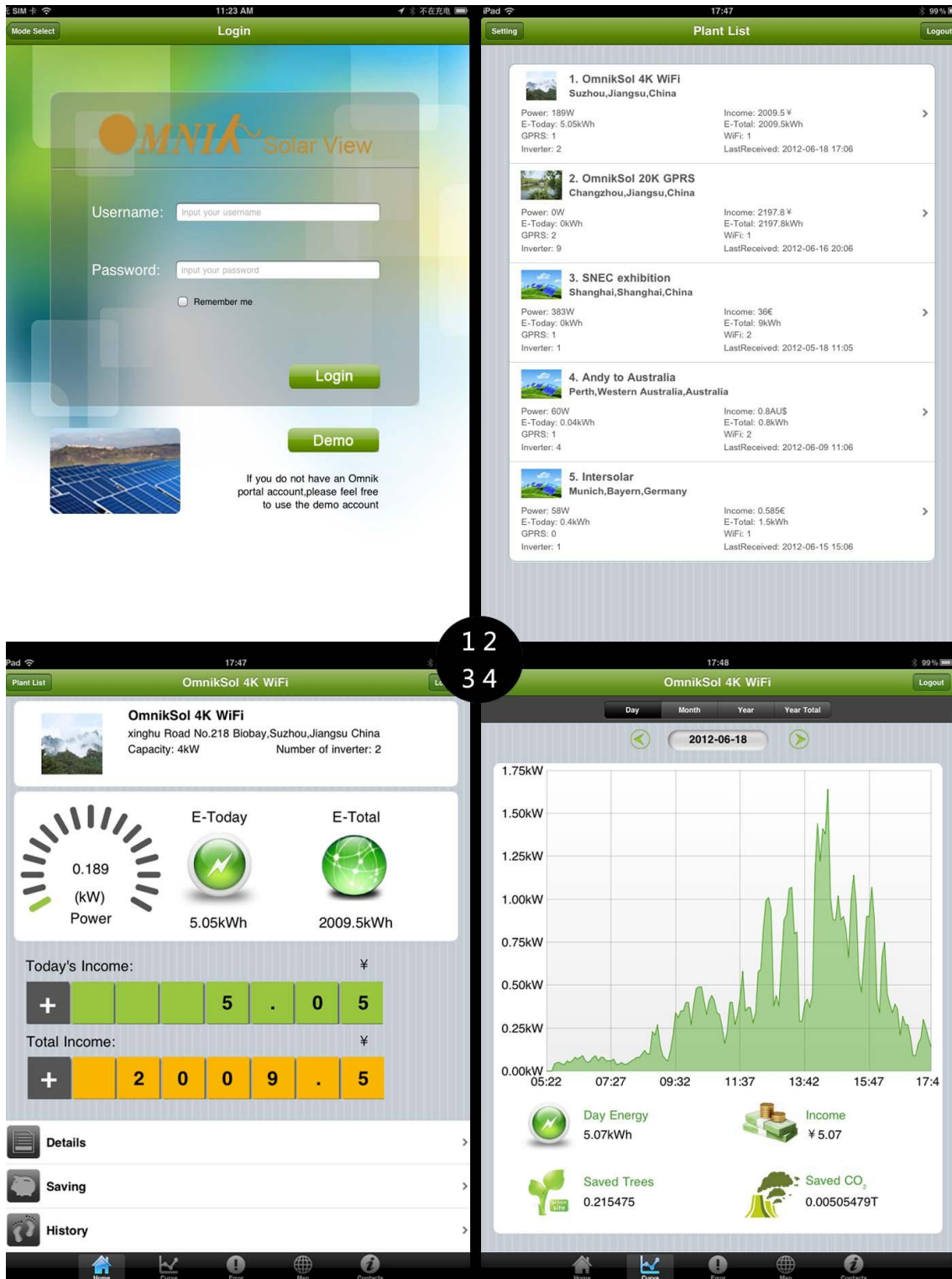
OK

Picture 2.7.10 System Setting Interface

2.8 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 2.8.1

1. Log in interface
2. Power station list interface
3. Main interface
4. Daytime curve interface

3. Contact

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

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

Omnik New Energy Co., Ltd.

Add: Xinghu Road No.218 bioBAY Park C2, Suzhou China

Zip code : 215213

Fax: +86 512 6295 6682

Tel: +86 512 6295 6676

Mail: Sales@omnik-solar.com