

ShineServer User Manual

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1. Manual Information

1.1 Copyright Notice

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not extract, copy some or all of the contents of this user manual, in any form, including information and publications, dissemination, this copyright Guruiwate all, All Rights Reserved.

The manual version of S3.2, Guruiwate have the user manual for this final interpretation, if ShineServer software page feature has been modified, with the latest information on the Company shall prevail, without notice.

1.2 About the manual

Dear user, Thank you for using Guruiwate New Energy Co., Ltd., Shenzhen (hereinafter referred to as Guruiwate) developed ShineServer, we sincerely hope that this product meets your needs very much, and look forward to your product's performance and functionality make more multiple views. The purpose of this manual is to provide detailed product information to the reader.

1.3 for Readers

This manual is intended for ShineServer user access, operation and maintenance of professional and technical personnel and daily operations. Readers need to have some knowledge of the network, as well as to understand the company's products.

1.4 guide

When using ShineServer please read this manual carefully. Manual content and pictures used, logos, symbols and so on for Guruiwate all. Non-insiders of the Company may not be disclosed without the written authorization reproduced in whole or in part. If manual updates to the new manual shall prevail.

2, ShineServer presentation

2.1 range

ShineServer apply to purchase the company's Shine WebBox, Wi-Fi Module and all other users, by monitoring the data collector to the data upload for viewing on ShineServer, while ShineServer data can also be saved on the sensor monitor, the user can use the Excel table in the form of export data, save it to your local computer for viewing.

2.2 Features

Data logger can upload the data to the monitor to ShineServer user to access data. Users only need to access ShineServer can know the status of the inverter, as well as current and historical power generation data. The inverter can also view the day, month, year, total generating capacity. ShineServer each inverter display of power generation in the form of a list, but also to other photovoltaic devices can monitor and view the data, such as combiner boxes, smart meters, environmental monitors, storage machines and more.

2.3 Conditions of Use

- 1, the computer must be networked.
- 2, there must be data collectors.
- 3, with a browser on your computer.

3. Use ShineServer

3.1 Language Settings

ShineServer available in English, Chinese, French, Japanese, Italian, New Zealand, Turkish and Polish eight kinds of languages. In the upper left corner of any interface language switching can see the icon, click the "Cn" icon page display in Chinese, click on the "En" page switches to English.



Figure 3.10-1 language switching

3.2 Register

When you first log in ShineServer page must be registered to log in to ShineServer top.

3.2.1 Requirements

1. Make sure the inverter connected Shine WebBox, Shine WebBox connected to the Ethernet.
- 2, the computer must be connected to the Ethernet access.
- 3, must have a browser on your computer.

3.2.2 registration steps

1, open the browser on the computer, in the browser address bar enter "server.growatt.com", press the "Enter" key to enter ShineServer login page shown in Figure 3.11-1.

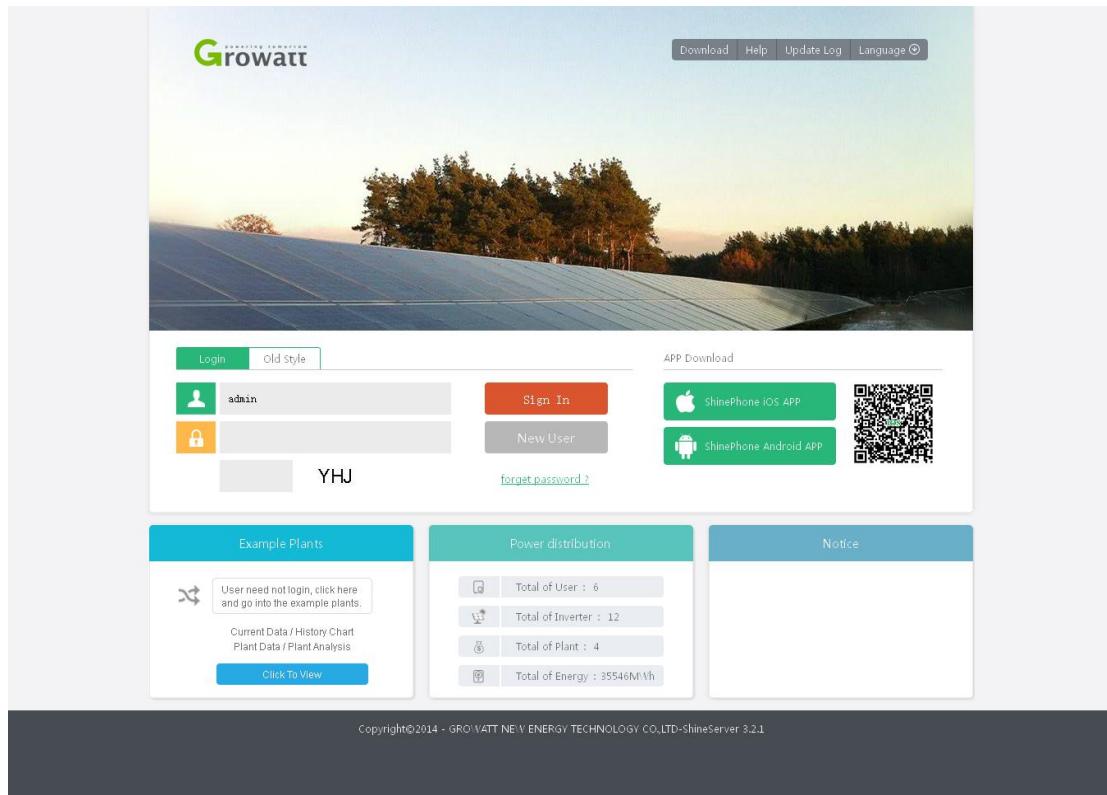


Figure 3.11-1 page into English

2, click the "Register New User", enter the registration page, enter your registration information, as shown below 3.12-1

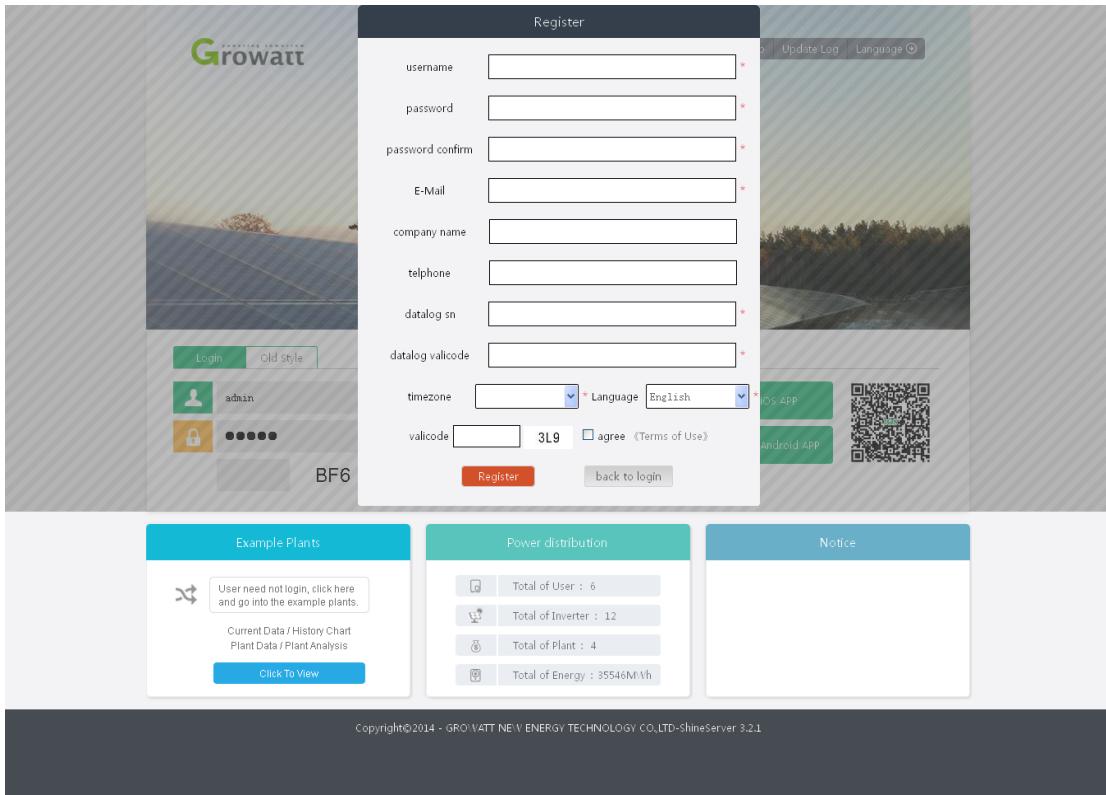


Figure 3.12-1 enter your registration information

3, click the "Register" button, the user registration is completed into the main interface.

3.3 Login, quit

3.3.1 Login

1, open the browser on your computer, in the browser address bar enter: "server.growatt.com" press "Enter" key to enter "ShineServer login page"

2, in the "User Name" text box to enter a user name has been registered successfully, in the "Password" text box, enter "Password" text box "checksum" after entering the correct checksum, such as Figure 3.13-1

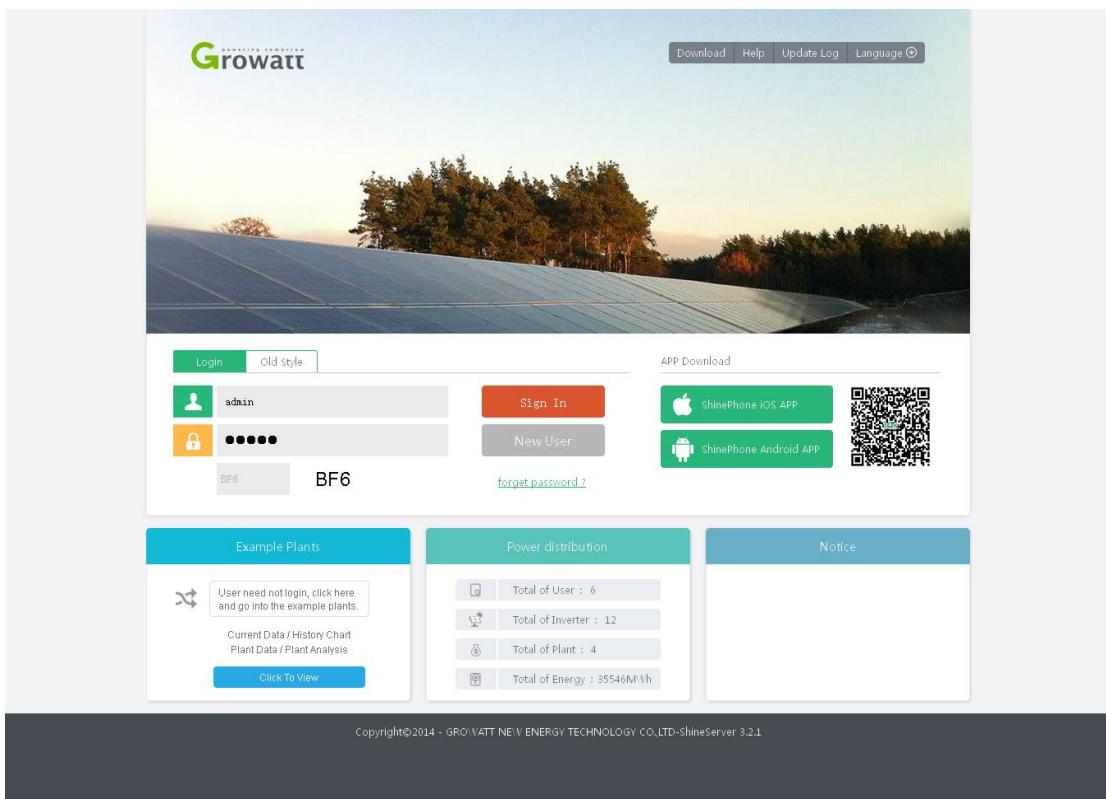


Figure 3.13-1 enter your login information

3. Click on the "Login", after logging in successfully entered ShineServer main interface.

3.3.2 Exit

Log into the "Main", click on the top left of the "exit" button to exit the home page, go to the next page landing page. To re-enter must enter the correct user name and password.

4, the user interface

When you log into, it will automatically pop up the screen, prompting you to create a power plant and distribution system, click OK.

Under this interface, mainly a menu bar is displayed below the dashboard data, the menu bar (shown below) is

Station name, instrument panel, power plants, User Center, settings, downloads, where the rightmost two are also language switching back to the main interface buttons, when you want to access the menu bar either interface, you'll be prompted window creation station, so the next step we create power plant setting.

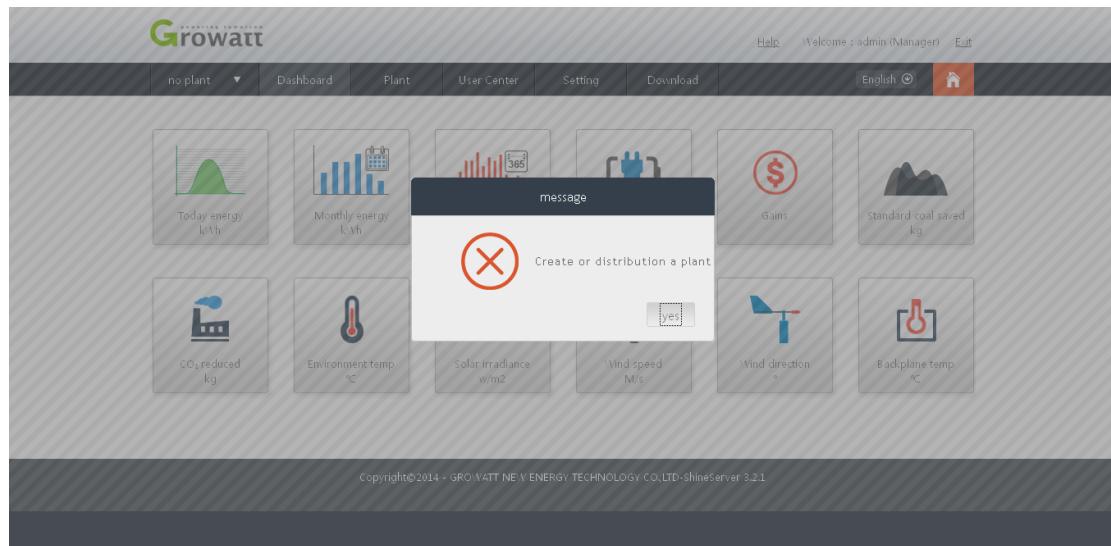


Figure 3.14-1 main interface

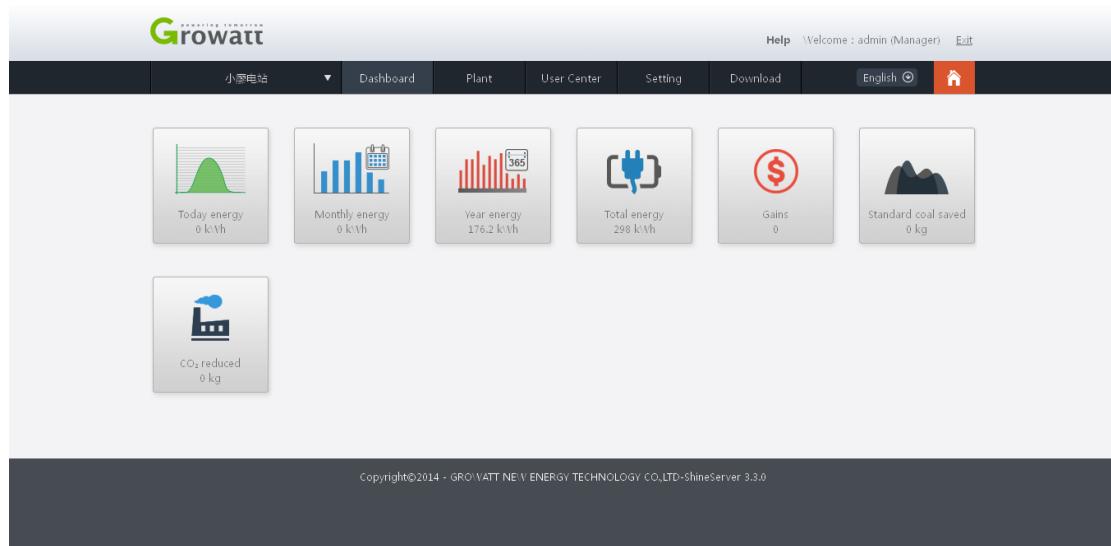


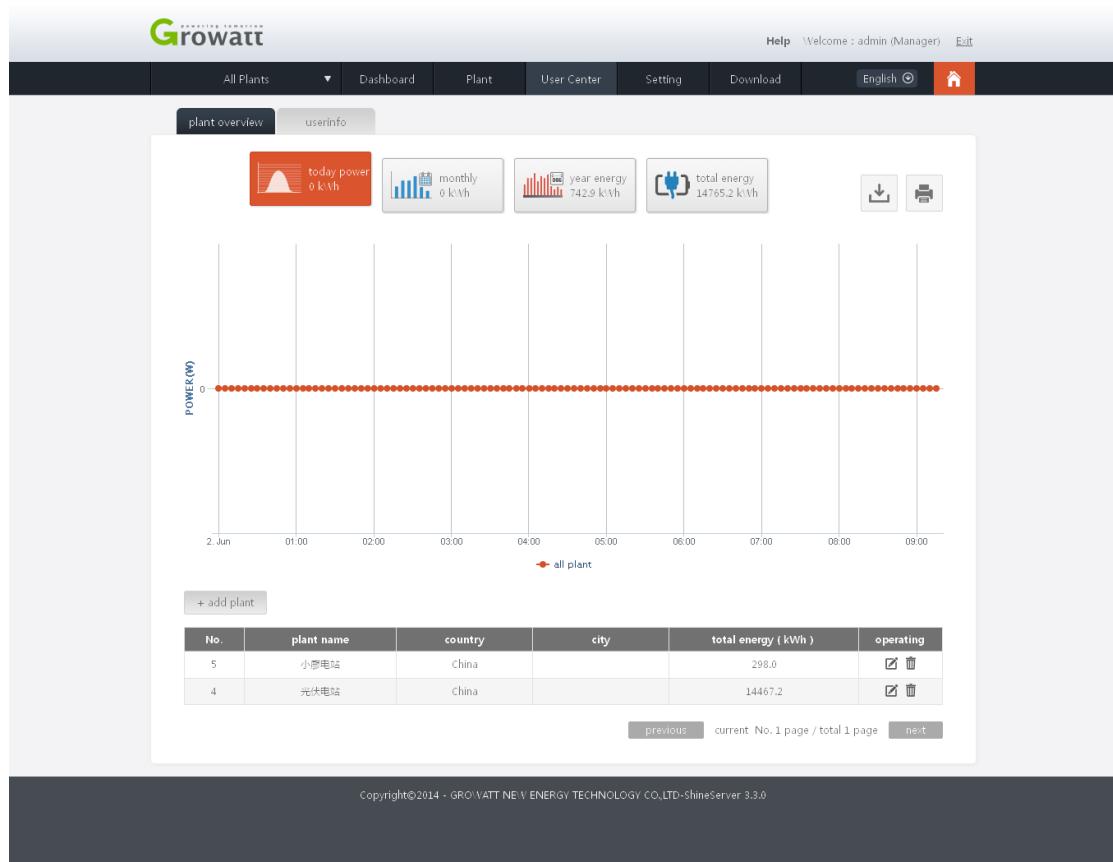
Figure 3.15-1 main interface

5, set up power plant

5.1 New Power Station

Users log on to the ShineServer, you need to create a power plant. Select "User Center - Station Overview" page into the new power plants. Page most lower corner there is a new power station button, click New Station. New power plant comprising: providing installation information, set location, set the gain, setting station profile. All plant information filled out "Save" to complete the new power plants.

Figure 3.16-1 Users interface



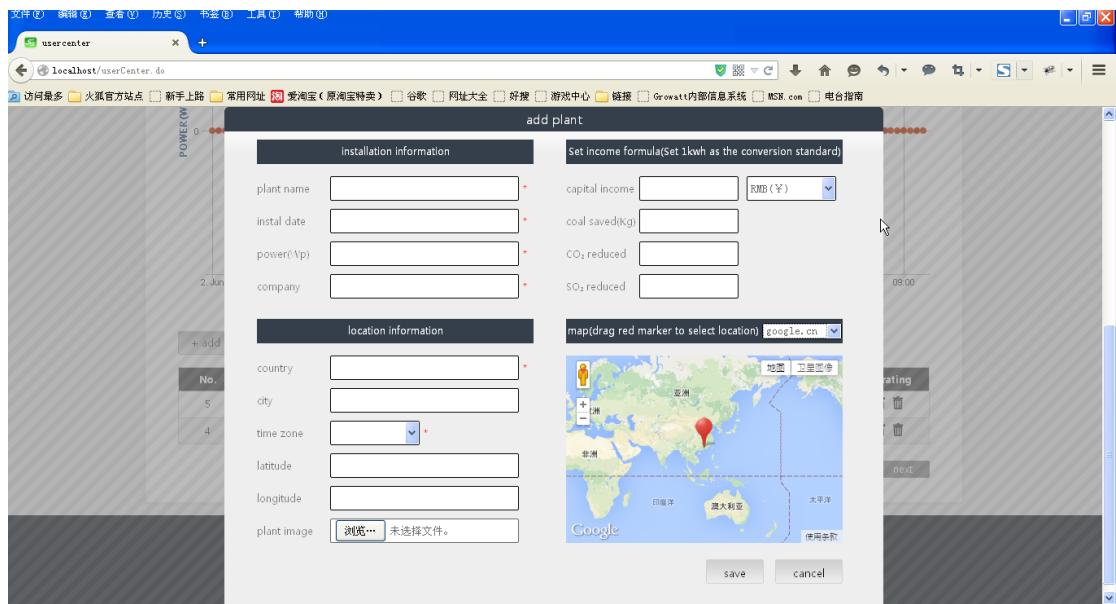


Figure 3.17-1 click New Station

5.1.1 Installation Information

Installation information required for the new power plant users:

- 1, the plant name, the user can customize the input station name according to your preference.
- 2, the date of installation, creating power plant installation date.
- 3, set the power, set the total power plant.
- 4, design companies, service vendors set up power plants.

5.1.2 Set Geographic Information

Location, according to the needs of users to fill in, if you do not fill in the default time zone to time zone server location, time of access to China's time,

- 1, country, fill in the user station is located.
- 2, City, fill in the user station's city.
- 3, time zone, power plants fill the user's time zone, so as to confirm local time, and not because of power stations and the server is not the same country leads to time displayed on your system is incorrect.
- 4, longitude latitude, longitude and latitude to fill in the location of the power station, you can drag the arrows on the map automatically.
- 5, power profile, based on users to upload pictures show pictures power station plant

information.

5.1.3 Setting income formula

The setting is based on earnings in the market for power generation 1KWH conversion standard.

- 1, capital gains, setting 1KWH electricity unit price.
- 2, save coal, the value of the standard 1KWH savings of standard coal.
- 3, CO2 emissions, 1KWH generating capacity reduction of emissions CO2.
- 4, SO2 emissions, 1KWH generating capacity reduction of emissions SO2.

5.1.4 Station Map

There are two options for google.com and google.cn, were able to locate the satellite to your location. Google.com is located within China, and is located in the world within google.cn. .com place except in China with a Chinese with .cn.

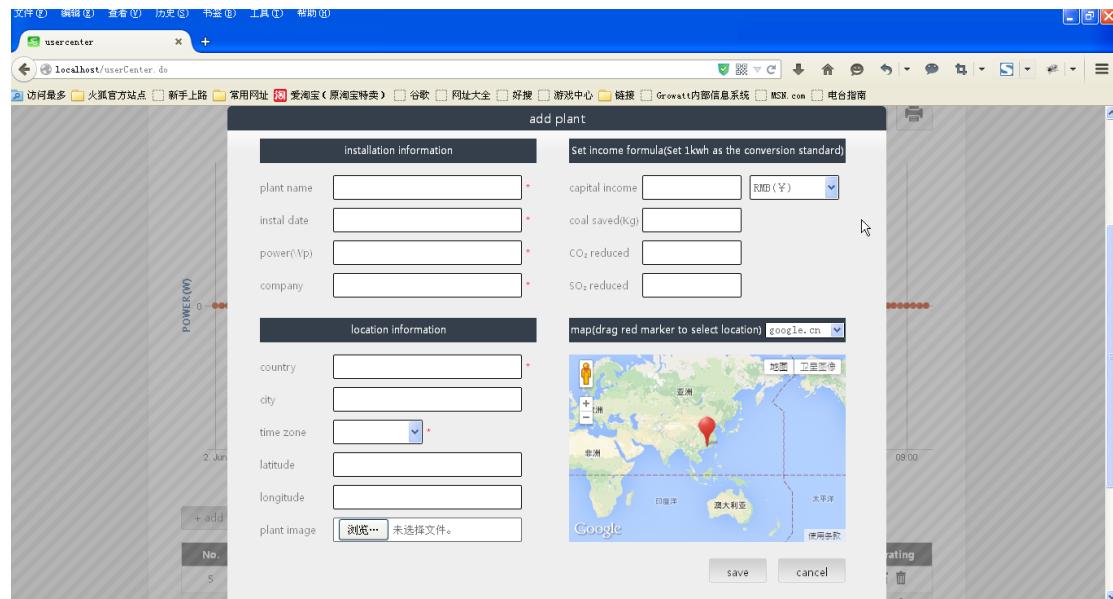


Figure 3.18-1 Register Station

6, add the data logger

1. Plant created, you can add data acquisition, and data acquisition station addition is in the menu bar, select "Plant - Device Manager - Data Collector" will appear interface shown in Figure 3.19-1. The above prompt "no collection, now add?." Click here to add collection.

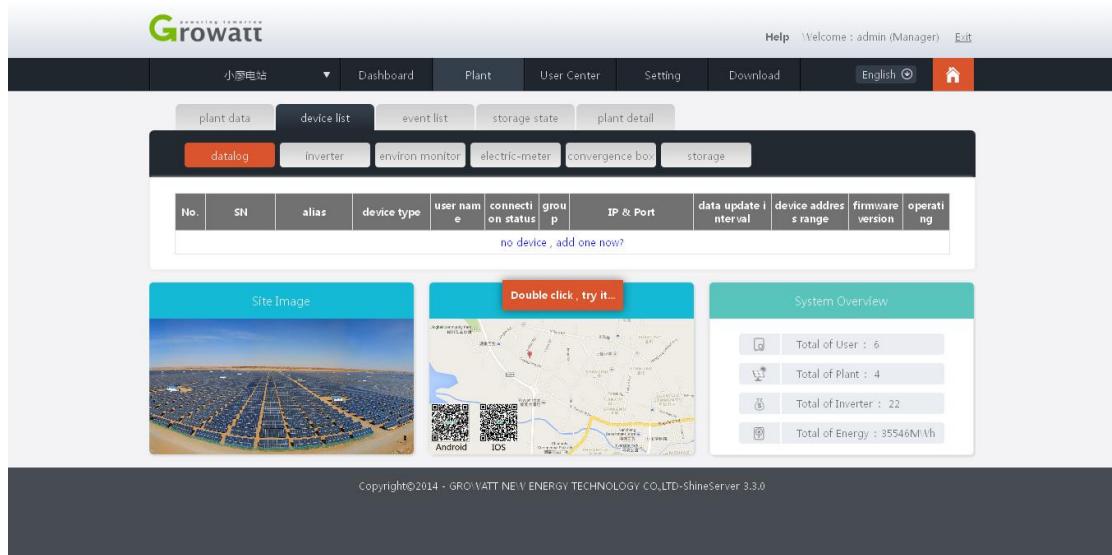


Figure 3.19-1 collector interface

2. Click here, will pop up a window that prompts you to add a logger's serial number and verification code, enter the Collector you want to add information and click Save, the collector has been added to it, as 3.20-1 and 3.21-1 shown.

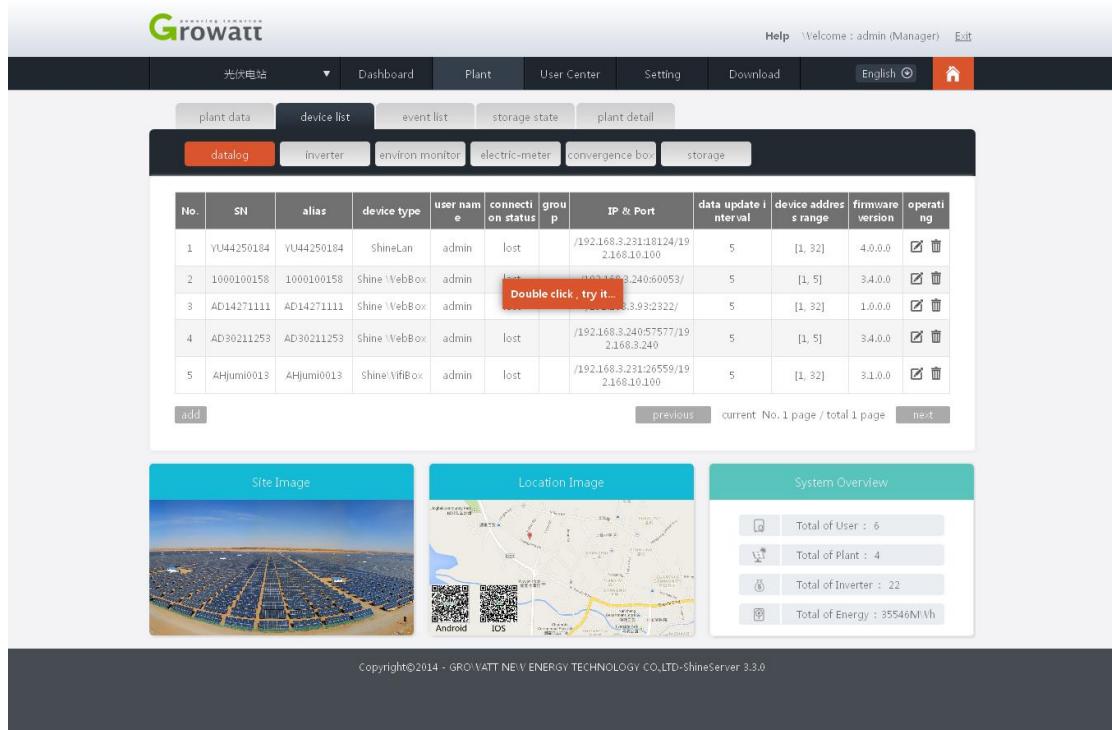


Figure 3.20-1 Adding Acquisition

If you are adding a logger working situations, after added to it, the beginning will show off state, to wait 2-3 minutes to appear connected state, because the data acquisition system to upload data to the server the required time.

No.	SN	alias	device type	user name	connection status	group	IP & Port	data update interval	device address range	firmware version	operating
1	YU44250184	YU44250184	ShineLan	admin	lost		/192.168.3.231:18124/19 2.168.10.109	5	[1, 32]	4.0.0.0	<input checked="" type="checkbox"/> <input type="checkbox"/>
2	1000100158	1000100158	Shine WebBox	admin	lost		/192.168.3.240:60053/	5	[1, 5]	3.4.0.0	<input checked="" type="checkbox"/> <input type="checkbox"/>
3	AD14271111	AD14271111	Shine WebBox	admin	lost		/192.168.3.230:393232/	5	[1, 32]	1.0.0.0	<input checked="" type="checkbox"/> <input type="checkbox"/>
4	AD30211253	AD30211253	Shine WebBox	admin	lost		/192.168.3.240:57577/19 2.168.3.240	5	[1, 5]	3.4.0.0	<input checked="" type="checkbox"/> <input type="checkbox"/>
5	AHjumi0013	AHjumi0013	Shine WebBox	admin	lost		/192.168.3.231:26559/19 2.168.10.109	5	[1, 32]	3.1.0.0	<input checked="" type="checkbox"/> <input type="checkbox"/>

add previous current No. 1 page / total 1 page next

Site Image

Location Image

System Overview

	Total of User : 6
	Total of Plant : 4
	Total of Inverter : 22
	Total of Energy : 35546MWh

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Figure 3.21-1 acquisition added after the success of the interface

2. After successfully added, you can view the monitored PV equipment: Inverter, environmental monitoring, smart metering, and energy storage machine combiner box. The monitored inverter and combiner box shown in Figure equipment. And you can double-click on the connected device, you can pop up a window display of specific parameters of the device can also lead out.

Growatt

Help | Welcome : admin (Manager) | Exit

光伏电站 | Dashboard | Plant | User Center | Setting | Download | English | Home

plant data | device list | event list | storage state | plant detail

datalog | **Inverter** | environ monitor | electric-meter | convergence box | storage

No.	SN	alias	datalog	connection status	rated power (W)	current power(W)	Today energy (kWh)	Monthly energy(kWh)	Total energy(kWh)	last login/update time	operating		
1	1500501041	1500501041	YU44250184	lost	1650	0.0	0.0	0	8485.9	2015-05-2 6 04:17:25			
2	9876593210	9876593210	YU44250184	lost	362	Double click , try it...	0.0	0	5114.5	2015-05-2 5 09:22:24			
3	CS25150124	CS25150124	1000100158	lost	3620	0.0	0.0	0	0.4	2015-04-2 8 16:56:53			
4	INV035C003	INV035C003	AD14271111	lost	20000	0.0	0.0	0	84.2	2015-04-3 0 13:28:24			
5	INV035C031	INV035C031	AD14271111	lost	20000	0.0	0.0	0	84.2	2015-04-3 0 13:28:24			
6	INV035C032	INV035C032	AD14271111	lost	20000	0.0	0.0	0	84.2	2015-04-3 0 13:28:24			
7	JPSTM30513	JPSTM30513	YU44250184	lost	12500	0.0	0.0	0	128.7	2015-05-2 1 11:14:56			
8	QQ25150408	QQ25150408	AHjumi0013	lost	4620	0.0	0.0	0	485.1	2015-05-2 9 05:56:09			

select a data logger previous current No. 1 page / total 1 page next

Site Image

Location Image

Android

iOS

System Overview

	Total of User : 6
	Total of Plant : 4
	Total of Inverter : 22
	Total of Energy : 35546M Wh

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Figure 3.22-1 monitored inverter

History Data

start date end date

No.	Time	Status	E_Today(kWh)	E_Total(kWh)	Vpv1(V)	Ipv1(A)	Ppv1(W)	Vpv2(V)	Ipv2(A)	Ppv2(W)	Ppv(W)	VacR(V)
1	2015-06-03 09:47:47	Normal	2.8	2.8	248.0	0.0	0.0	0.0	0.0	0.0	19199.4	220.0

current No. 1 page / total 1 page

Figure 3.23-1 inverter History Sheet

Growatt

光伏电站 ▼ Dashboard Plant User Center Setting Download English

plant data device list event list storage state plant detail
datalog inverter **environ monitor** electric-meter convergence box storage

No.	alias	datalog	connection status	Wind speed(M/S)	Wind direction(°)	Solar irradiance(W/m²)	Environment temp(°C)	Backplane temp(°C)	solar radiation(kWh)	last login/update time	operating
1	Environ-monitor	AD14271111	connection	0.1	1	166	32.2	31.5	0.0	2015-06-03 09:47:47	
2	Environ-monitor	AD14271111	connection	0.1	1	166	32.2	31.5	0.0	2015-06-03 09:47:47	
3	Environ-monitor	AD14271111	connection	0.1	1	165	32.1	31.4	0.0	2015-06-03 09:47:47	
4	Environ-monitor	AD14271111	connection	0.1	1	166	32.2	31.5	0.0	2015-06-03 09:47:47	
5	Environ-monitor	AD14271111	connection	0.1	1	166	32.2	31.5	0.0	2015-06-03 09:47:47	
6	Environ-monitor	AD14271111	connection	0.1	1	164	32.0	31.3	0.0	2015-06-03 09:47:47	
7	Environ-monitor	AD14271111	connection	0.1	1	165	32.1	31.4	0.0	2015-06-03 09:47:47	
8	Environ-monitor	AD14271111	lost	0.1	1	146	29.9	29.3	0.0	2015-04-29 08:13:35	
9	Environ-monitor	AD14271111	lost	0.1	1	146	29.9	29.3	0.0	2015-04-29 08:13:35	
10	Environ-monitor	AD14271111	connection	0.1	1	168	32.3	31.6	0.0	2015-06-03 09:47:47	
11	Environ-monitor	AD14271111	connection	0.1	1	166	32.2	31.5	0.0	2015-06-03 09:47:47	
12	Environ-monitor	AD30211253	lost	0.5	0	211	25.4	28.1	0.0	2015-05-22 12:50:50	

Site Image
Location Image
System Overview
 Total of User : 6
 Total of Plant : 4
 Total of Inverter : 22
 Total of Energy : 35546MWh

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Figure 3.24-1 monitoring of the environmental monitor

Growatt

光伏电站 ▼ Dashboard Plant User Center Setting Download English

plant data device list event list storage state plant detail
datalog inverter **environment monitor** electric-meter convergence box storage

No.	alias	datalog	connection status	location	channel	voltage	last login/update time	operating
1	Convergence box	1000100158	lost	42	16	0.0 V	2015-04-30 12:21:20	

Site Image
Location Image
System Overview
 Total of User : 6
 Total of Plant : 4
 Total of Inverter : 22
 Total of Energy : 35546MWh

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Figure 3.25-1 monitor to the combiner box

7, the user interface and the main menu bar

Intro

As shown in Figure After you successfully login interface 3.26-1 shown, is primarily a menu bar and several deputy dashboard graphics, the menu bar can be divided into eight major modules, namely the current station, the instrument panel, power plants, User Center, settings, downloads, language settings button and Home button, introduced specific operating functions of each module below.

7.1 Station selection

As shown in Figure 3.26-1, when you have more than one station, you can select the station they want to know their needs, view the information.

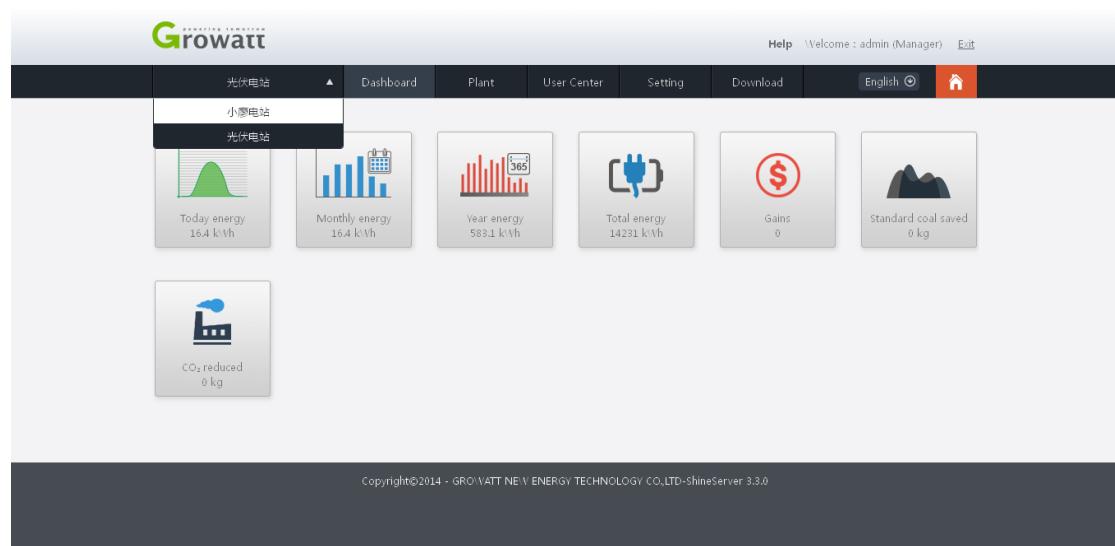


Figure 3.26-1

7.2 Dashboard

As shown in Fig. 3.27-1 station can see all the relevant data, today's generation, the month generating capacity, total generating capacity, revenue, saving the amount of standard coal, carbon dioxide emission reductions, ambient temperature, sunlight intensity, wind speed, wind, back panel temperature, and other information, intuitive and clear. If you want to set the appropriate instrument in the "Settings - Dashboard Setting", check your desired instrument will be displayed in the dashboard.

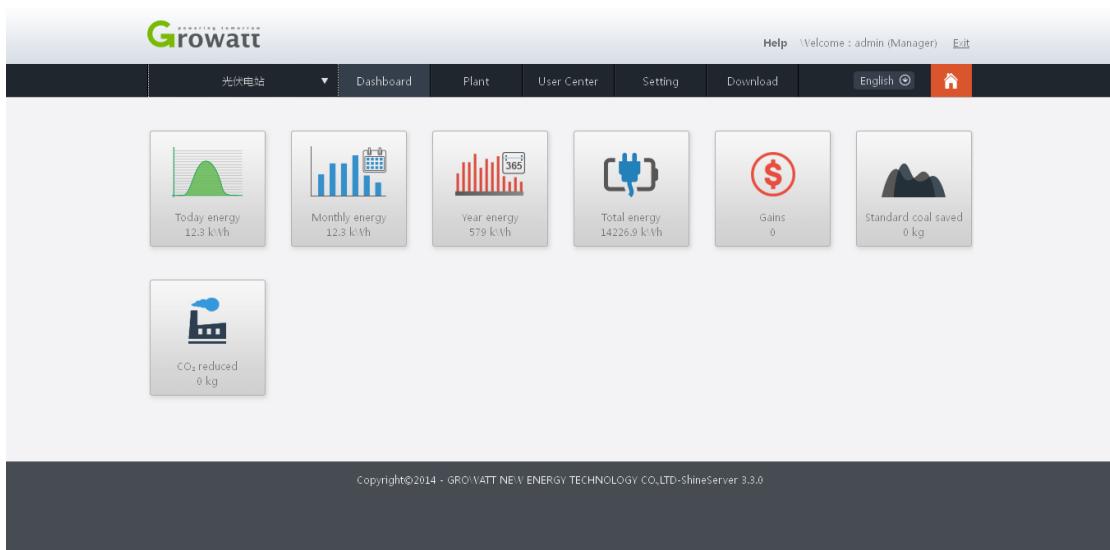


Figure 3.27-1

7.3 Plant

7.3.1 Job Information

Work information means you can view all photovoltaic devices are working at any one time in power, the historical data for a certain period of a day, you can press DMY accumulated, and also compared with each other between the same equipment. All information about the parameters shown by the line graph below portrayal of photovoltaic devices can be intuitively reflect the operation of the device. Wherein the data collection is optional, if there are multiple data collection at work, you can choose what you want, the data collection will be a list on the

left the monitored data acquisition device selection list, check it The following is a line graph data for the device.

Also the graph below, there are many parameters to choose from, pv power, pv1 voltage, pv1 current, pv2 voltage, pv2 current, R-phase power, s-phase power, T-phase power and other parameters, different parameters will be appropriate graphics and data.

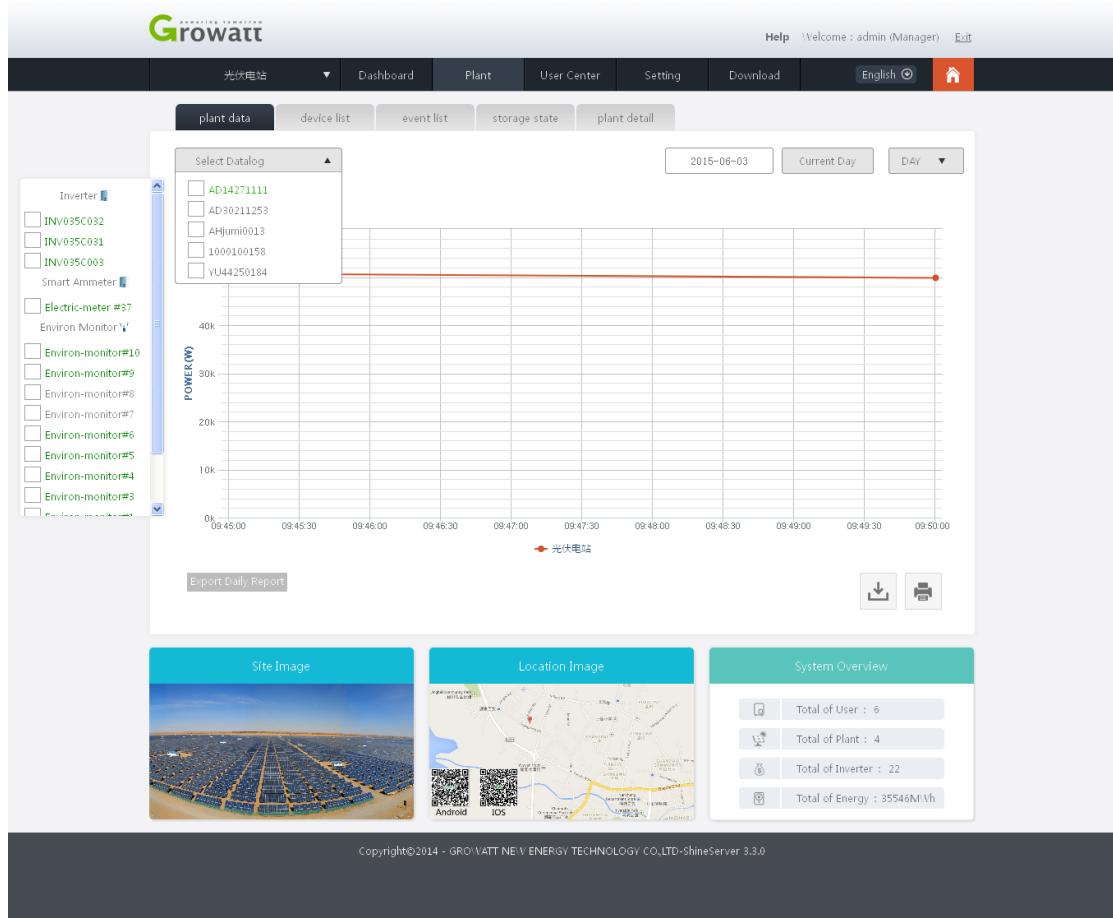


Figure 3.28-1 inverter graph

As shown in Figure 3.19-1, the default display of the power plant has been selected the data, the other can show different parameters depending on the device select power plants, photovoltaic power plants on the map by default, if you want to choose more than one power station look at the power station to be displayed. Select the station and then to choose a good acquisition, put the mouse will automatically show the drop-down button next collector collection list, select a logger click on it, on the left there will be monitored under the acquisition of all photovoltaic devices, which You can select a photovoltaic device when the graph that you want to see, and optionally one, but also an optional plurality, but at the same time can only select the same device. Otherwise, only relatively small pop-up window to remind the same device. The following parameters of different devices which display different curves demonstrated pattern is different, as shown above, there is pv inverter power, pv1 voltage, pv1 current, pv2 voltage, pv2 current, R-phase power, s-phase power , T-phase power eight kinds of parameters, check the different parameters, it will display the contents of the selected parameter,

while the curve will be different. The two right buttons are downloading graphs and print graphs.

7.3.2 Device Manager

The interface can add a new data acquisition, view the connection status of each device and the corresponding data, and you can change the device name, set the functions of the device, remove the equipment.

First, the data collector

- 1, add the data collector.
- 2, see the data collector information, connection status, IP and port number, the address range, firmware version.
- 3, you can modify the name of the collector.
- 4, section collector can be set.
- 5, you can remove collector.

The screenshot shows the Growatt Device Manager interface. At the top, there's a navigation bar with links for 'Help', 'Welcome : admin (Manager)', and 'Exit'. Below the navigation bar is a secondary menu with tabs: 'plant data', 'device list' (which is selected), 'event list', 'storage state', and 'plant detail'. Underneath this is another row of tabs: 'datalog' (selected), 'inverter', 'environ monitor', 'electric-meter', 'convergence box', and 'storage'. The main content area displays a table of data collector information:

No.	SN	alias	device type	user name	connection status	group	IP & Port	data update interval	device address range	firmware version	operating
1	YU44250184	YU44250184	ShineLan	admin	lost		/192.168.3.231:18124/19 2.168.10.100	5	[1, 32]	4.0.0.0	<input checked="" type="checkbox"/> <input type="checkbox"/>
2	1000100158	1000100158	Shine WebBox	admin	lost		/192.168.3.240:60053/	5	[1, 5]	3.4.0.0	<input checked="" type="checkbox"/> <input type="checkbox"/>
3	AD14271111	AD14271111	Shine WebBox	admin	connection		/127.0.0.1:2649/192.168. 3.92	5	[1, 32]	1.0.0.0	<input checked="" type="checkbox"/> <input type="checkbox"/>
4	AD30211253	AD30211253	Shine WebBox	admin	lost		/192.168.3.240:5757/19 2.168.3.240	5	[1, 5]	3.4.0.0	<input checked="" type="checkbox"/> <input type="checkbox"/>
5	AHjumi0013	AHjumi0013	Shine WebBox	admin	lost		/192.168.3.231:26559/19 2.168.10.100	5	[1, 32]	3.1.0.0	<input checked="" type="checkbox"/> <input type="checkbox"/>

Below the table are buttons for 'add', 'previous', 'current No. 1 page / total 1 page', and 'next'. The bottom section of the interface includes three cards: 'Site Image' (a photo of a solar panel array), 'Location Image' (a map showing plant locations), and 'System Overview' (statistics: Total of User: 6, Total of Plant: 4, Total of Inverter: 22, Total of Energy: 35546MWh).

Figure 3.29-1 acquisition information

Two inverter

- 1, you can see all the inverter information collector under.
- 2, you can view the connection status of the inverter.
- 3, you can view the data information to the inverter, rated power, today's generation, the month generating capacity, total generating capacity.

- 4, you can change the name of the inverter.
- 5, you can delete dropped the inverter.
- 6, you can set the inverter related functions.
- 7, double-click on the inverter information bar, you can view the inverter specific data.

The screenshot shows the 'device list' tab selected in the top navigation bar. Below it, a sub-menu bar includes 'datalog', 'inverter' (which is highlighted in red), 'environ monitor', 'electric meter', 'convergence box', and 'storage'. A tooltip 'Double click , try it...' is visible above the sub-menu. The main content area displays a table of inverter data with the following columns: No., SN, alias, datalog, connect ion stat us, rated power (W), current pow er(W), Today energy (kWh), Monthly ener gy(kWh), Total energy(kWh), last login /update t ime, and operating status. The table contains 8 rows of data. At the bottom of the table are buttons for 'select a data logger', a dropdown menu, 'previous', 'current No. 1 page / total 1 page', and 'next'.

No.	SN	alias	datalog	connect ion stat us	rated power (W)	current pow er(W)	Today energy (kWh)	Monthly ener gy(kWh)	Total energy(kWh)	last login /update t ime	operating
1	1500501041	1500501041	YU44250184	lost	1650	0.0	0.0	0	8485.9	2015-05-2 6 04:17:25	
2	9876593210	9876593210	YU44250184	lost	3620	0.0	0.0	0	5114.5	2015-05-2 5 09:22:24	
3	CS25150124	CS25150124	1000109158	lost	3620	0.0	0.0	0	0.4	2015-04-2 9 16:54:53	
4	INV035C003	INV035C003	AD14271111	connection	20000	15997.1	9.0	9	9.0	2015-06-0 3 10:12:50	
5	INV035C031	INV035C031	AD14271111	connection	20000	16072.3	9.0	9	9.0	2015-06-0 3 10:12:50	
6	INV035C032	INV035C032	AD14271111	connection	20000	15894.8	9.0	9	9.0	2015-06-0 3 10:12:50	
7	JPSSTM30513	JPSSTM30513	YU44250184	lost	12500	0.0	0.0	0	128.7	2015-05-2 1 11:14:56	
8	QQ25150408	QQ25150408	AHjumi0013	lost	4620	0.0	0.0	0	485.1	2015-05-2 9 05:56:09	

Below the table, there are three cards: 'Site Image' (a large image of a solar panel array), 'Location Image' (a map showing the system's location), and 'System Overview' (statistics: Total of User: 6, Total of Plant: 4, Total of Inverter: 22, Total of Energy: 35546M Wh).

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Figure 3.30-1 inverter list

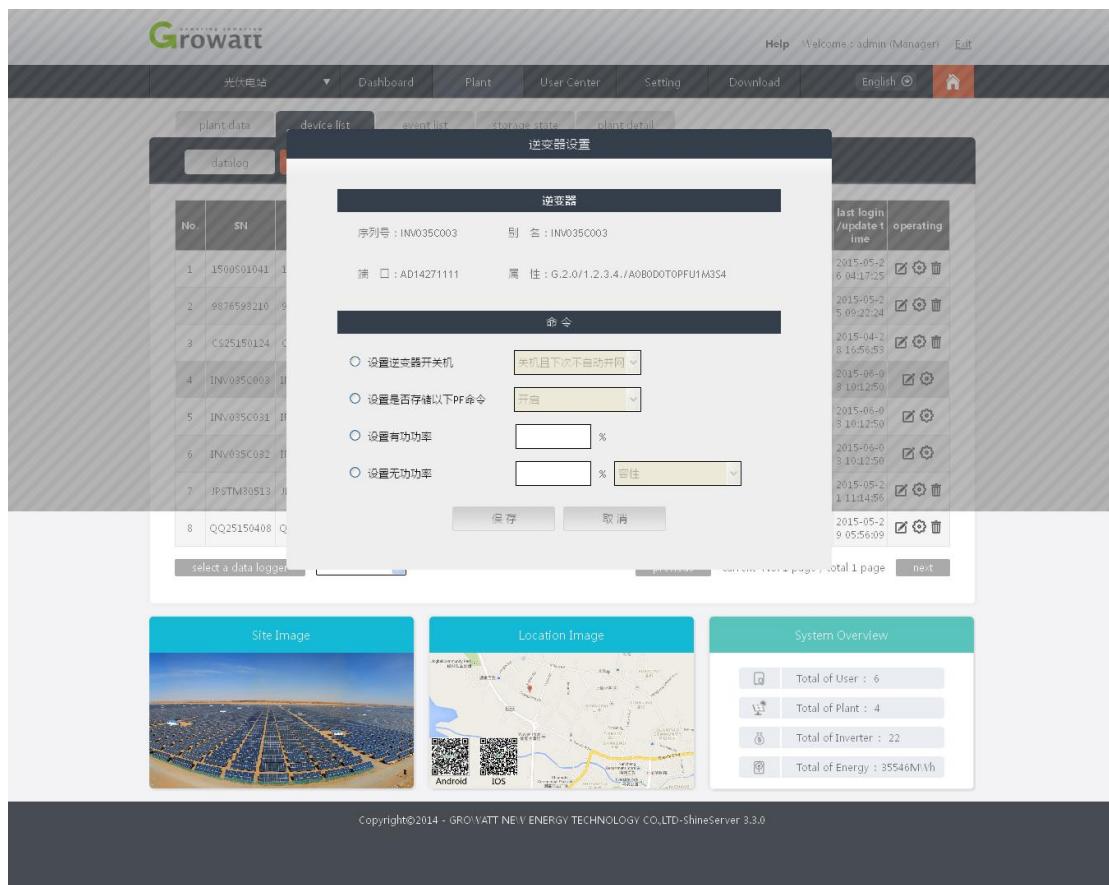


Figure 3.31-1 inverter function information setting

History Data			start date	2015-06-03	end date	2015-06-03	export					
No.	Time	Status	E_Today(kWh)	E_Total(kWh)	Vpv1(V)	Ipv1(A)	Ppv1(W)	Vpv2(V)	Ipv2(A)	Ppv2(W)	Ppv(W)	VacR(V)
1	2015-06-03 09:57:48	Normal	5.5	5.5	248.0	0.0	0.0	0.0	0.0	0.0	18130.1	220.0
2	2015-06-03 09:52:47	Normal	4.1	4.1	248.0	0.0	0.0	0.0	0.0	0.0	18648.1	220.0
3	2015-06-03 09:47:47	Normal	2.7	2.7	248.0	0.0	0.0	0.0	0.0	0.0	18959.6	220.0

At the bottom, there are navigation buttons: previous, current page (No. 1 page / total 1 page), next, page number (1), and close.

Figure 3.32-1 inverter specifications table

Third, the environmental monitor

- 1, you can view all environmental monitoring instruments under acquisition.
- 2, you can view the connection status of environmental monitors.
- 3, you can view the environmental monitor wind speed, wind direction, solar temperature, ambient temperature, the back panel temperature, solar radiation, the last login / update time.
- 4, can modify the environment monitor name.
5. Double-click the environmental monitor information bar, you can view specific information.

The screenshot shows the Growatt ShineServer 3.3.0 software interface. At the top, there is a navigation bar with links for Help, Welcome : admin (Manager), and Exit. Below the navigation bar is a secondary menu with tabs: plant data, device list, event list, storage state, plant detail, datalog, inverter, environ monitor (which is highlighted in orange), electric-meter, convergence box, and storage. A sub-menu for 'environ monitor' is open, showing a table with 12 rows of data. The table columns include: No., alias, datalog, connection status, Wind speed (M/S), Wind direction (°), Solar irradiance (W/m²), Environment temp (°C), Backplane temp (°C), solar radiation (kWh), last login/update time, and operating. The data shows various environmental monitor entries with their respective details. Below the table are three cards: Site Image (showing a large solar farm), Location Image (showing a map with site location and QR codes for Android and iOS), and System Overview (showing statistics: Total of User : 6, Total of Plant : 4, Total of Inverter : 22, Total of Energy : 35546MWh). At the bottom of the interface, there is a copyright notice: Copyright©2014 - GROWATT NEW ENERGY TECHNOLOGY CO.,LTD-ShineServer 3.3.0.

Figure 3.33-1 environmental monitor information

Fourth, smart meters

- 1, you can see all the smart meter collector under.
- 2, you can view the connection status of smart meters.
- 3, you can view the smart meter active power, reactive power, apparent power, reactive power, active power, power factor, and last logon / update time.
- 4, you can modify the name of smart meters.

5. Double-click the smart meter information bar, you can view specific data.

The screenshot shows the Growatt ShineServer 3.3.0 software interface. At the top, there is a navigation bar with tabs for 'Plant' (highlighted), 'Setting', 'Download', 'English', and a home icon. Below the navigation bar is a sub-navigation bar with tabs for 'datalog', 'inverter', 'environ monitor', 'electric-meter' (highlighted in red), 'convergence box', and 'storage'. The main content area displays a table titled 'electric-meter' with two rows of data. The columns are: No., alias, datalog, connection status, active power(W), reactive power(Var), apparent power(VA), active energy(kWh), reactive energy(kVarh), power factor, last login/update time, and operating. The first row has a yellow background, and the second row has a light blue background. Below the table are three cards: 'Site Image' showing a large solar panel array, 'Location Image' showing a map with a red dot indicating the plant's location, and 'System Overview' with statistics: Total of User: 6, Total of Plant: 4, Total of Inverter: 22, and Total of Energy: 35546MWh. At the bottom left, there is a note: 'Copyright©2014 - GROWATT NEW ENERGY TECHNOLOGY CO.,LTD-ShineServer 3.3.0'.

No.	alias	datalog	connection status	active power(W)	reactive power(Var)	apparent power(VA)	active energy(kWh)	reactive energy(kVarh)	power factor	last login/update time	operating
1	Electric-meter	AD14271111	connected	5566.7	158.8	5993.9	46.9	0.1	0.9992	2015-06-03 09:57:48	<input checked="" type="checkbox"/> <input type="button" value="Delete"/>
2	Electric-meter	1000100158	lost	20295.0	-866.2	20311.9	1.4	0.0	0.9992	2015-04-30 05:58:29	<input checked="" type="checkbox"/> <input type="button" value="Delete"/>

Figure 3.34-1 smart meter information

Fifth, the combiner box

- 1, you can see all the bus at the collector box.
- 2, you can see the connection status combiner box.
- 3, you can see the position of the combiner box, large ones, bus voltage and final registration / update time.
- 4, you can change the name of the combiner box.
5. Double-click the combiner box to view specific parameters combiner box.

The screenshot shows the Growatt ShineServer 3.3.0 software interface. At the top, there is a navigation bar with links for 'Help', 'Welcome : admin (Manager)', 'Exit', 'English', and a home icon. Below the navigation bar, there is a sub-navigation bar with tabs: 'plant data' (selected), 'device list', 'event list', 'storage state', and 'plant detail'. Under 'device list', there are sub-tabs: 'datalog', 'inverter', 'environment monitor', 'electric-meter', 'convergence box' (selected), and 'storage'. A table below shows a single entry for a convergence box:

No.	alias	datalog	connection status	location	channel	voltage	last login/update time	operating
1	Convergence box	1000100158	lost	42	16	0.0 V	2015-04-30 12:21:20	<input checked="" type="checkbox"/> Delete

Below the table, there are three sections: 'Site Image' (showing a large solar farm), 'Location Image' (showing a map of the site), and 'System Overview' (showing statistics: Total of User: 6, Total of Plant: 4, Total of Inverter: 22, Total of Energy: 35546MWh). At the bottom left, there is a note: 'Copyright©2014 - GROWATT NEW ENERGY TECHNOLOGY CO.,LTD-ShineServer 3.3.0.'

Figure 3.35-1 combiner box information

Sixth, the storage machine

- 1, you can see all storage machines under acquisition.
- 2, you can view the status of the energy storage unit is connected.
- 3, you can see the location of the storage unit, the amount of charge and discharge capacity and final registration / update time.
- 4, you can change the name of the storage unit.
5. Double-click on the information bar to view the storage machine storage machine specific parameters.

The screenshot shows a web-based monitoring and management interface for a solar power plant. At the top, there's a navigation bar with tabs for '电站' (Power Station), '用户中心' (User Center), '设置' (Settings), '下载' (Download), and language selection ('中文'). Below the navigation is a secondary menu with tabs like '工作信息' (Work Information), '设备管理' (Device Management), '事件日志' (Event Log), '系统状态' (System Status), and '电站详情' (Power Station Details). The '设备管理' tab is currently selected. A sub-menu under it includes '数据采集器' (Data Collector), '逆变器列表' (Inverter List), '环境监测仪列表' (Environmental Monitoring Instrument List), '智能电表列表' (Smart Meter List), '汇流箱' (String Box), and '储能机' (Energy Storage System). A table below lists a single device entry:

序号	SN	别名	数据采集器	位置	连接状态	充电	放电	最后登陆/更新时间	操作
1	HH00000001	HH00000001	YU94130388	1	双串	0.0 V	6.7 V	2015-04-30 11:45:02	<input checked="" type="checkbox"/>

Below the table are three cards: 'Site Image' showing a wide-angle view of a solar farm; 'Location Image' showing a map with a red dot indicating the plant's location; and 'System Overview' displaying statistics: Total of User: 6, Total of Plant: 4, Total of Inverter: 12, and Total of Energy: 35546MWh.

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Figure 3.36-1 information storage unit

7.3.3 Event Log

In this screen you can view all historic data in all equipment under abnormal operating conditions of. If too much data can be filtered according to the device name lookup. As shown in Figure 3.37-1.

The screenshot shows the Growatt ShineServer 3.3.0 software interface. At the top, there is a navigation bar with links for 'Help', 'Welcome : admin (Manager)', 'Exit', 'Dashboard', 'Plant', 'User Center', 'Setting', 'Download', 'English', and a home icon.

The main content area has tabs for 'plant data', 'device list', 'event list' (which is selected), 'storage state', and 'plant detail'. Below these tabs are search and export buttons, and input fields for 'device SN', 'start date' (2015-04-01), 'end date' (2015-06-03), 'search', and 'export'.

A table displays event logs with columns: device SN, alias, type, date, event SN, and event mark. The data shows multiple entries for inverters with various event marks like 'No ac connection'.

At the bottom of the table are buttons for 'previous', 'current', 'next', and a dropdown for 'Page'.

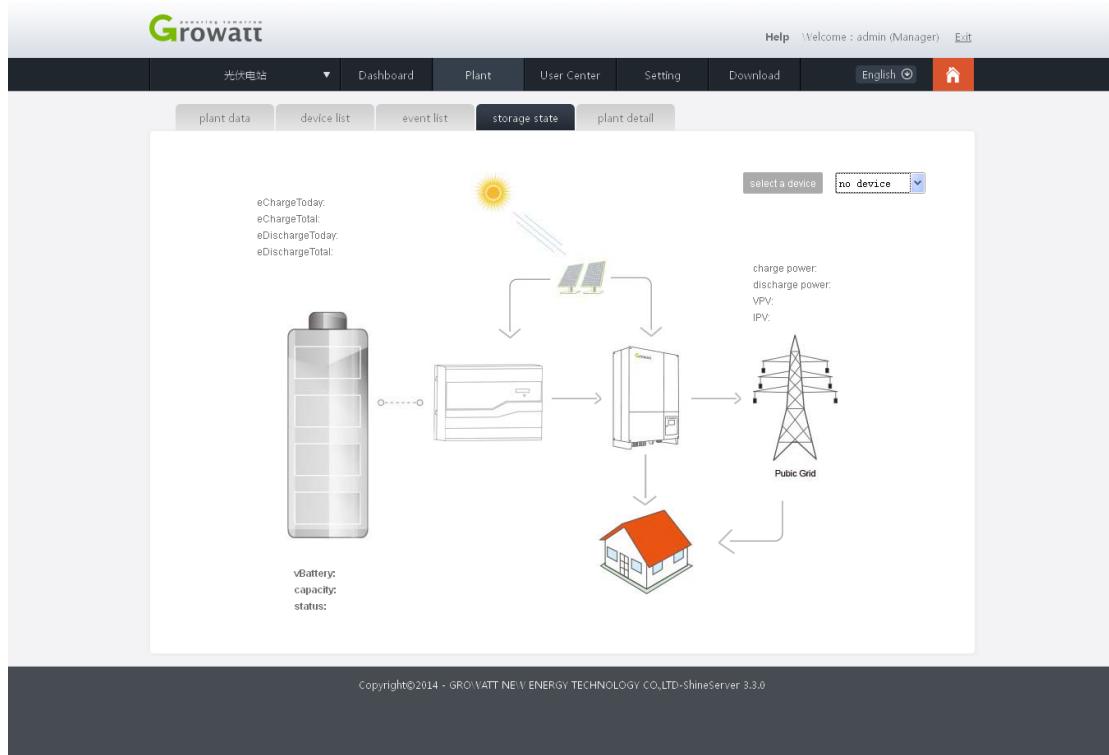
Below the table are three cards: 'Site Image' (a photo of a solar panel array), 'Location Image' (a map showing the system's location), and 'System Overview' (with statistics: Total of User: 6, Total of Plant: 4, Total of Inverter: 22, Total of Energy: 35546MWh). It also includes download links for 'Android' and 'iOS'.

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Figure 3.37-1 Event Log

7.3.4 System Status

This interface is very intuitive main display of the power storage unit, the storage unit battery power, charge and discharge, and the standby state. If more than one storage unit can also choose to view that you want. With an approximate figure shows the way our system, while above, there are data available for users, as shown below.



3.38-1 System Status

7.3.5 Station Details

The main interface displays all the information you current power plant, in fact, when you sign up for this power plant information.

As shown in Figure 3.39-1.

The screenshot shows the 'plant detail' tab of the software. The interface is similar to Figure 3.38-1, with tabs for 'plant data', 'device list', 'event list', 'storage state', and 'plant detail' (selected). The 'plant detail' section contains three main tables:

- installation information**

plant name	光伏电站
instal date	2015-4-30
power(Wp)	20000
company	吉瑞瓦特
- location information**

country	China
city	
time zone	GMT+3
longitude	
latitude	
- Set income formula(Set 1kwh as the conversion standard)**

capital income	0.00RMB
coal saved(kg)	0.00
CO ₂ reduced(kg)	0.00
SO ₂ reduced(kg)	0.00

To the right of these tables is a large image of a solar farm with many rows of solar panels under a clear blue sky.

3.39-1 station details Figure

7.4 Users

7.4.1 Station Overview

In this screen can display the total power of all power plants, through a very intuitive graph describes every moment of power or function, and provides a graphical four ways, the same day generation, generation of the month, when the power generation and cumulative power. Two buttons on the right are the download graph line and print graphics. This interface can be divided into two blocks, the first chunk of the graphics to display the total of all plant workers, can be calculated in four ways, DMY accumulated, as 3.40-1

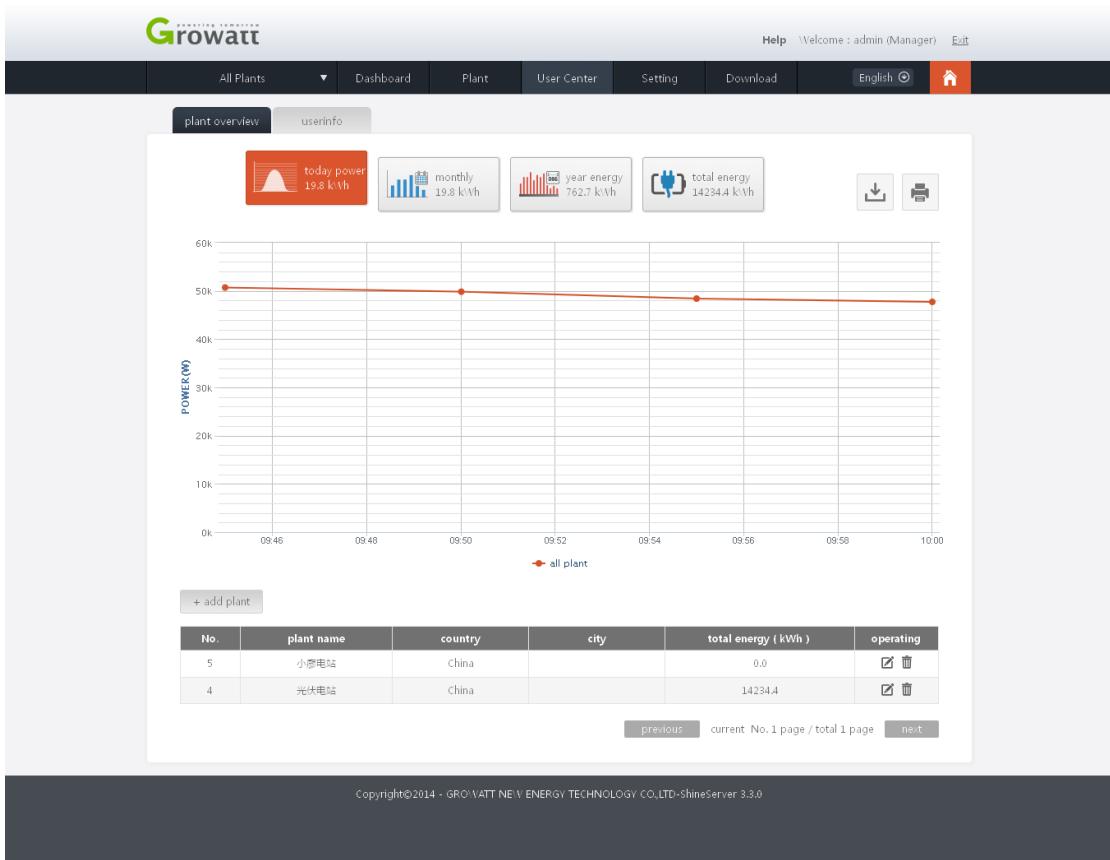


Figure 3.40-1 Station overview graph

This chart shows data for all plant under the user and

The second chunk is the station list, all the power plants will be in the following display, power station information, station names, total generating capacity can see, you can modify the station name, and you can delete the station. One very important feature is the new power plants, all of our power plants are new in this page. As shown

No.	plant name	country	city	total energy (kWh)	operating
5	小磨电站	China		0.0	<input checked="" type="checkbox"/> <input type="button" value="删除"/>
4	光伏电站	China		14234.4	<input checked="" type="checkbox"/> <input type="button" value="删除"/>

previous current No. 1 page / total 1 page next

Figure 3.41-1 Plant Overview Plant List

7.4.2 User Information

First, personal information changes

As the name suggests is to make changes to your account, click Save after modifying it.

user info

userinfo modify change password browse account

user name : admin

company name :

realy name : super&admin

Email : *

Tel phone :

time zone : GMT +8 *

language : English *

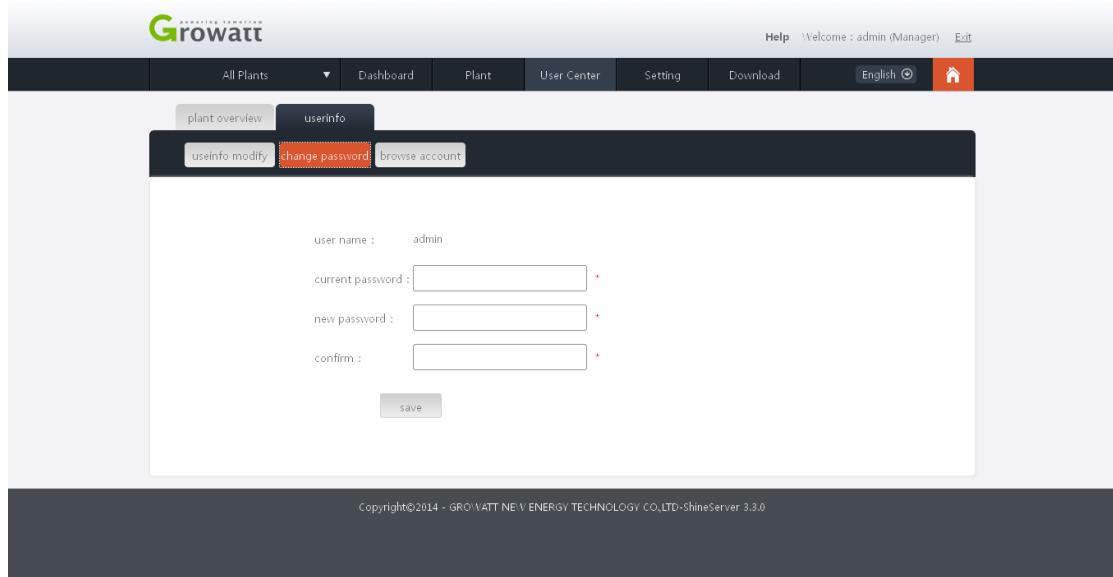
save

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Figure 3.42-1 personal information changes

Second, change your password

You can modify your account password, entered click Save on it.



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Figure 3.43-1 password changes

Third, browse user

Here you can add browse account, you can select the appropriate station as required, the provisions browse account can see power plants, other power plants can not view, browse account only data browsing, no rights to the data CRUD, click below Add button to add the browser accounts, input information, save a success.

user name	really name	E-mail	company name	Tel phone	account status	register time	last login/u pdate time	operating
xiaoliao		1037177241@qq.com			√	2015-04-29	null	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
guest		1037177241@qq.com			√	2015-04-29	null	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

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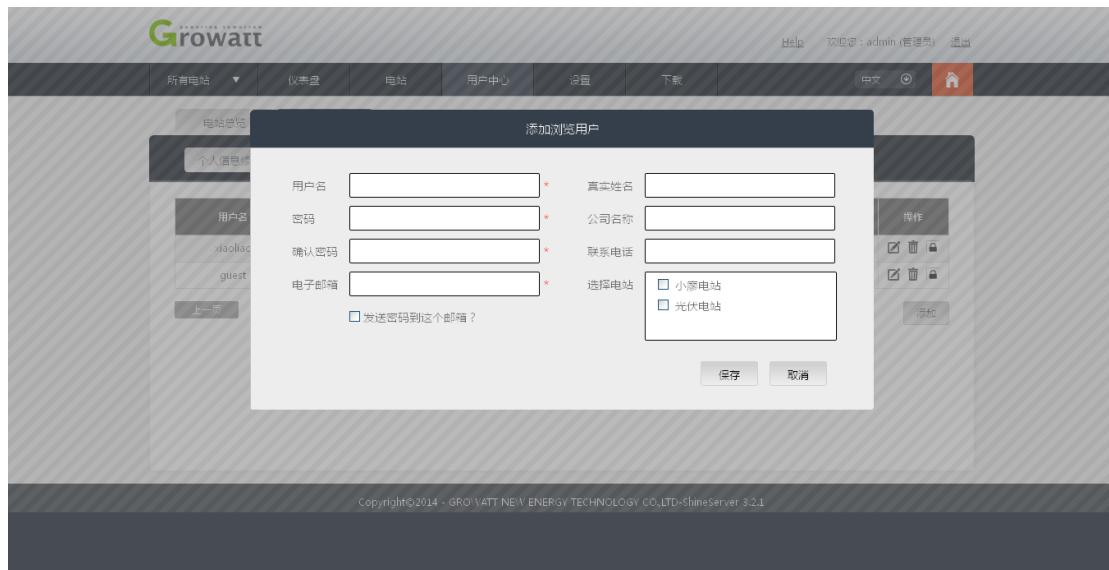


Figure 3.44-1 Register Browse account

7.5 Setting

7.5.1 Dashboard settings

As shown in FIG is set on the dashboard, there are 12 kinds of dashboard options, today generating capacity, the month generating capacity, total generating capacity, revenue, saving the amount of standard coal, carbon dioxide emission reductions, ambient temperature, sunlight intensity, wind speed, wind direction, temperature back panel. You can select the dashboard you want according to your preferences. After you save the menu bar dashboard displays all the instruments of your choice.

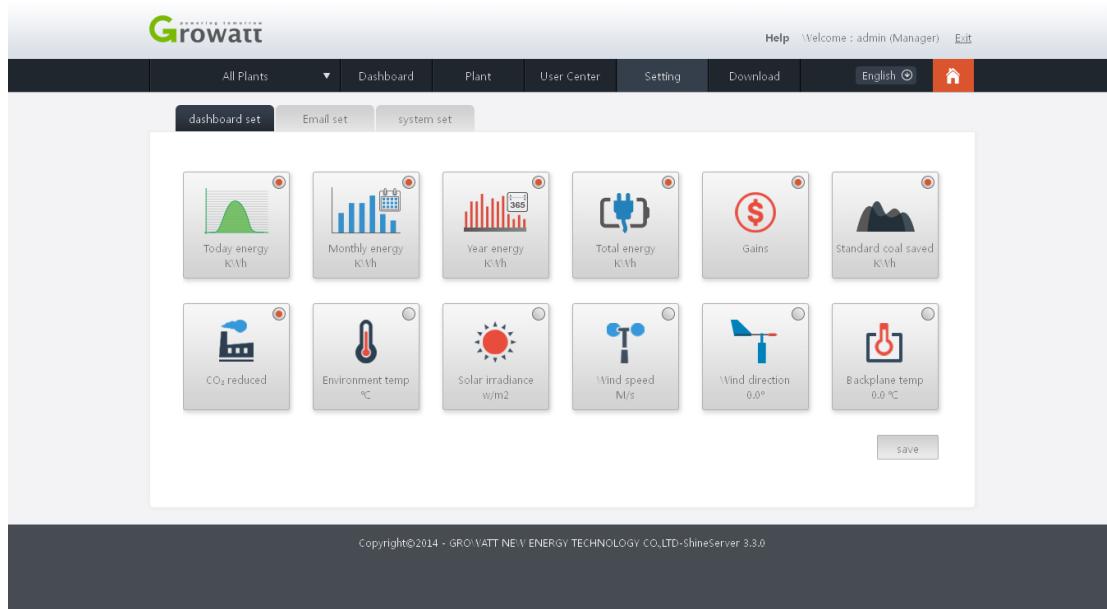


Figure 3.45-1 dashboard

7.5.2 mailbox settings

This function is associated with the mailbox on your station set up, you can modify the mailbox, there are three options which can be checked, receive alerts, receiving daily reports, monthly reports received, it will be checked in the case of a warning mail day will regularly send you a daily report, monthly periodically send you monthly statements. You can add a new mailbox, but can also delete mailboxes.

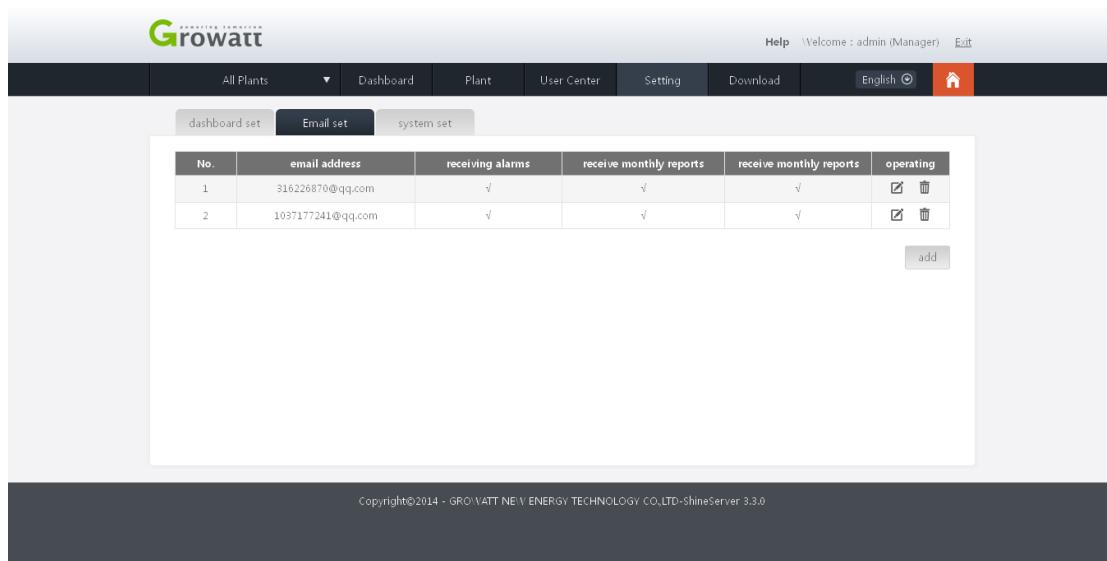


Figure 3.46-1 mail settings

7.6 download

7.6.1 File Download

In this screen you can download the user manual, ShineServer user manual in English, Growatt Wi-Fi Module in the English version, ShineWifi user manual in English.

No.	file name	file type	file size	update time	download
1	ShineServer user manual	.pdf	2.6MB	2013-10-21	English 中文
2	Growatt Wi-Fi Module	.pdf	4.03MB	2013-10-21	English 中文
3	Growatt Wi-Fi Module	.pdf	4.03MB	2013-10-20	中文
4	ShineWifi user manual	.pdf	0.66MB	2015-04-16	English 中文

Figure 3.49-1 Download User Manual

7.6.2 Download

In this interface users can download software, ShineWifi Andrews version and IOS version, ShinePhone Andrews version and IOS version.

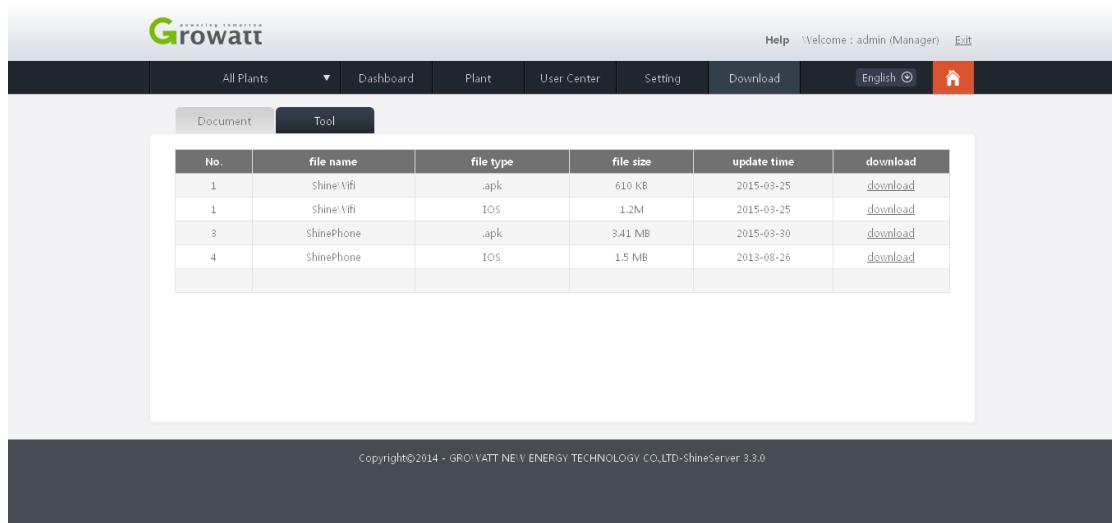


Figure 3.50-1 APP Download

7.7 Language Settings

As shown in Figure 3.51 on page text language can be set, available in English, Chinese, French, Japanese, Italian, New Zealand, Turkish and Polish is available in eight languages settings. Users can set up according to their needs.

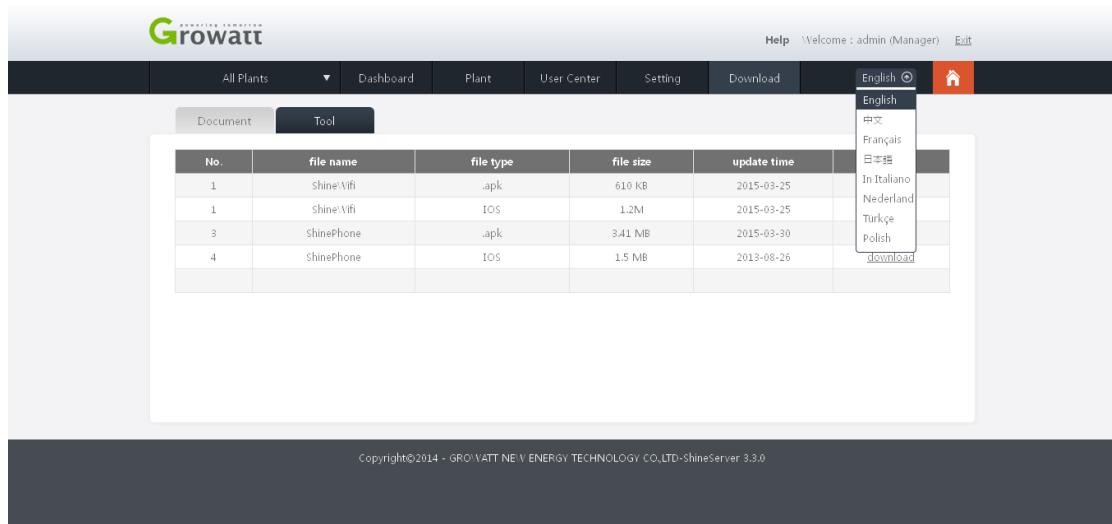


Figure 3.51 Language Settings

7.8 HOME key

When you are in any one interface, click the HOME key, you will return to the dashboard of the interface.

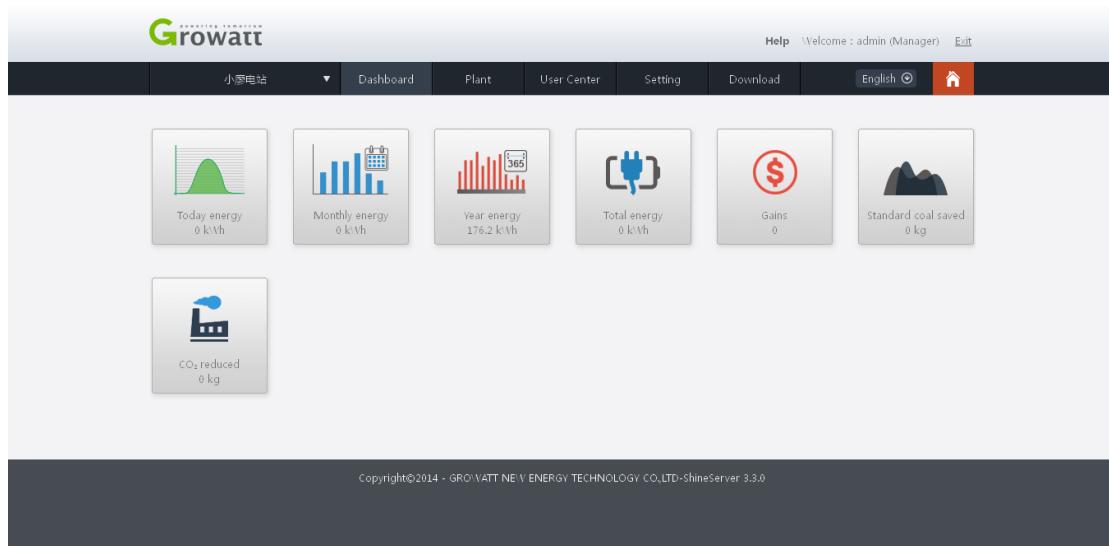


Figure 3.52-1 HOME key

8, Contact us

Guruiwate new energy to provide customers with comprehensive technical support. Users may contact the nearest Guruiwate new energy office or service center can also contact the company headquarters.

Name: Shenzhen Guruiwate New Energy Co., Ltd.

Address: Shenzhen Bao'an District street Dragon community Guangming Road on the 28th

Customer Service Hotline: +86 75527471942

E-mail: service@ginverter.com

Company Website: www.growatt.com