



Gorwatt Monitoring System

Lucas

Content

Monitoring Devices

Monitoring Platform

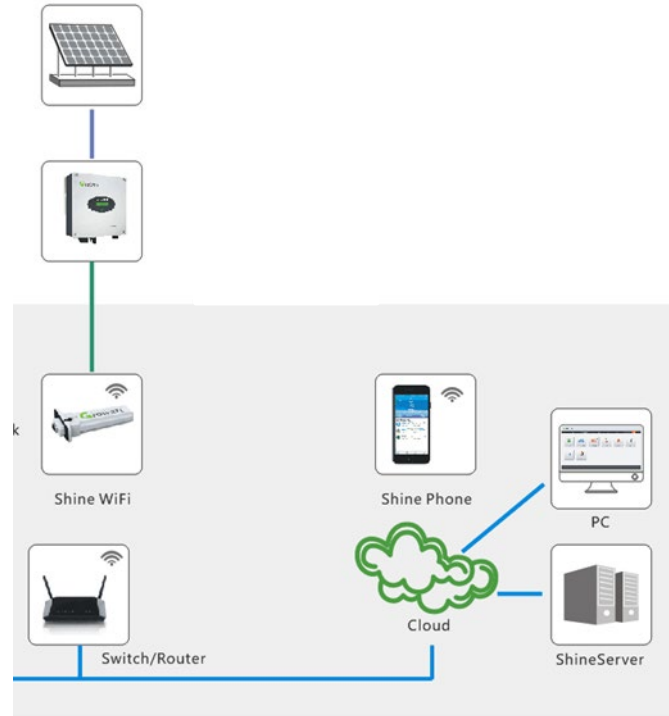


➤ Monitoring Devices

1. Growatt Shine WIFI-S



Growatt Shine WIFI-S



Growatt Shine WIFI-S Monitor System

➤ Monitoring Devices

1. Growatt Shine WIFI-S

Datasheet	WIFI-S
Data Interface	RS232/USB
Support Network	2.4G WIFI
Server Communication	TCP(Modbus TCP Protocol)
MAX. Communication range	50m
Data Transfer Interval	5min
MAX Power Consumption	2W
Configure Type	APP Configure

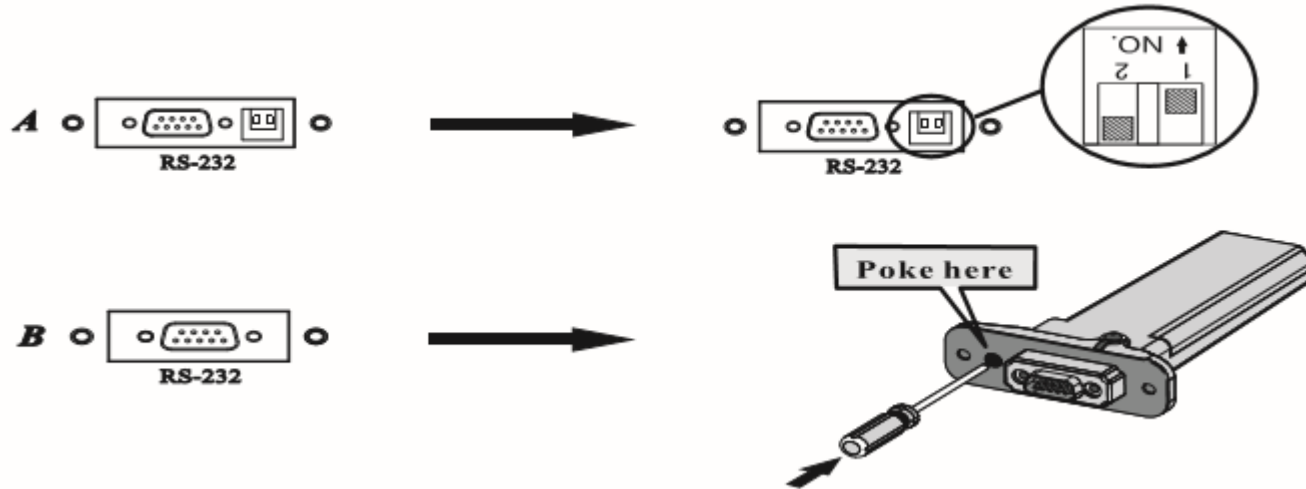
Some advantages:

- 1. Store data for more than 40 days**
- 2. Update stored data to ShineServer when Internet recover**
- 3. Support remote service**

➤ Monitoring Devices

Growatt Shine WIFI-S Installation Guideline

Step.1. Connect WIFI-S with Inverter



1.1. If the inverter RS-232 port is like A, switch the DIP1 switch to “ON”.
If the inverter RS-232 port is like type B, remove the rubber plug.

1.2. Connect WiFi-S to RS-232 port, and fix it with the screws

➤ Monitoring Devices

Growatt Shine WIFI-S Installation Guideline

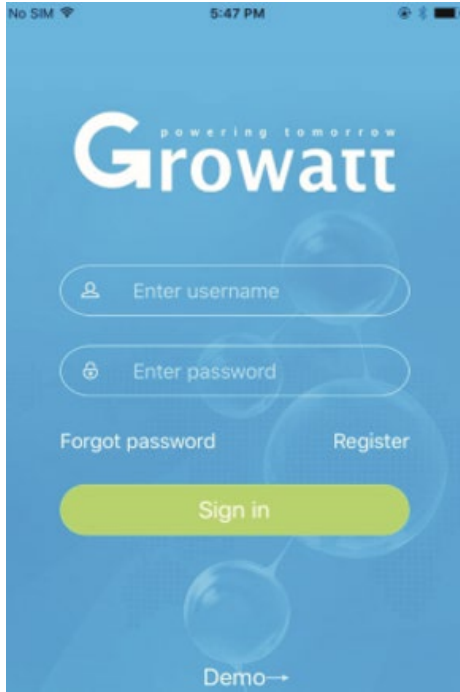
Step.2. Turn on inverter and check WIFI-S state

LED State	Indication
ALL three LED off	ShineWiFi not connected well with inverter RS232 port
Only Red LED flashes	ShineWiFi and inverter communication is OK
Only Green LED flashes	ShineWiFi, inverter and router communication is OK
Only Blue LED flashes	ShineWiFi, inverter, router and ShineServer communication is OK

➤ Monitoring Devices

Growatt Shine WIFI-S Installation Guideline

Step.3. Registration and adding device



3.1. Connect your mobile phone to the WIFI of your home router of which the WIFI-S module will be connected.

3.2. Open ShinePhone APP, click “Register” on login page.

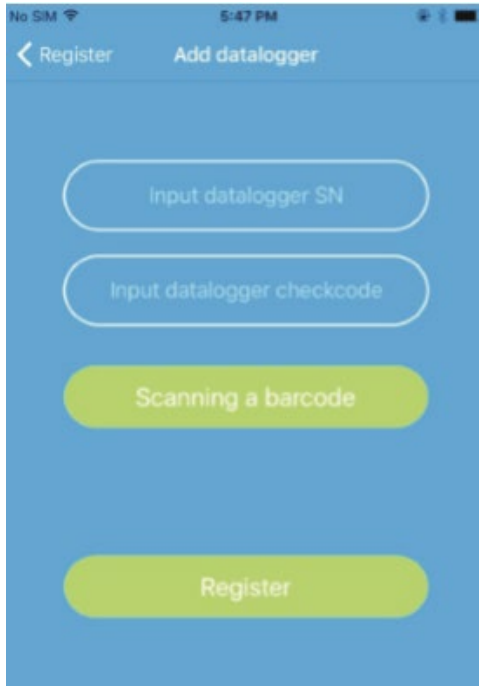
3.3. Select country and city, in next page fill out the required information, then click “Next”, it will guide you to the “Add datalogger” page.

Note: If you select a wrong country and city, the system time maybe wrong.

➤ Monitoring Devices

Growatt Shine WIFI-S Installation Guideline

Step.3. Registration and adding device

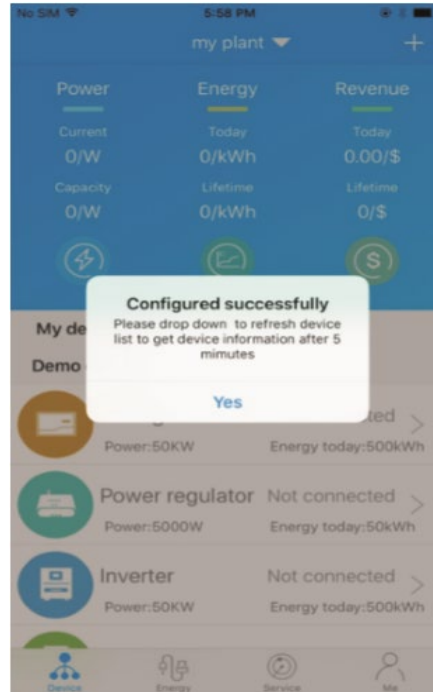
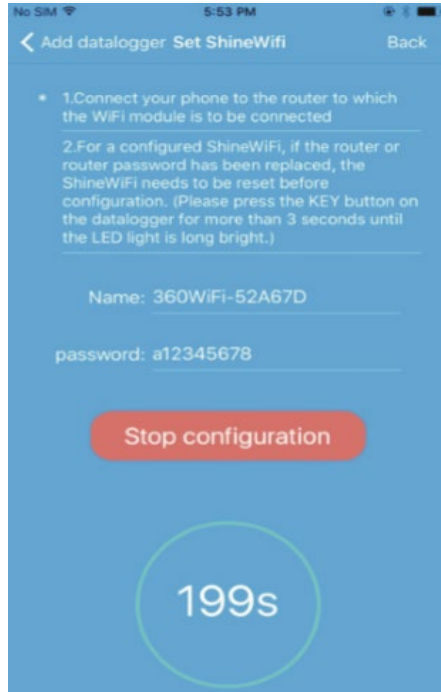


3.4. Scan or input the ShineWiFi barcode and checkcode, then click "Register", it will move you to the "Set ShineWifi" page.

➤ Monitoring Devices

Growatt Shine WIFI-S Installation Guideline

Step.3. Registration and adding device



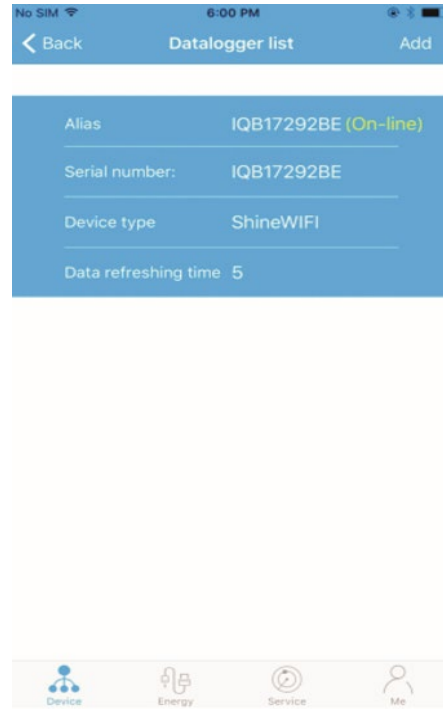
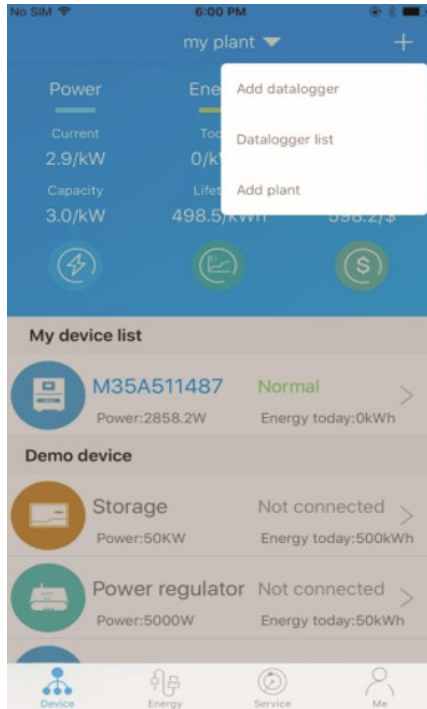
3.5. Fill out the wifi network and password, then click “Configuration”, after successful configuration, a note will pop up “Configured successfully”, then it will move to the “my plant” page.

Note: There are 3 LEDs on WiFi-S, only the blue LED flashing indicates the WiFi module is successfully connected to the router and ShineServer.

➤ Monitoring Devices

Growatt Shine WIFI-S Installation Guideline

Step.3. Registration and adding device



3.6. Clicking “+” sign on the right top of the page, select “Datalogger list” in the appearing dialog window.

Push on the datalogger’s serial number for 3 s until a small dialog window appears, select “Configure datalogger”.

It will move to the “Set ShineWifi” page, enter the home router’s name and password, then click “Set” the connection configuration process will begin.

➤ Monitoring Devices

Growatt Shine WIFI-S Installation Guideline

Step.3. Registration and adding device



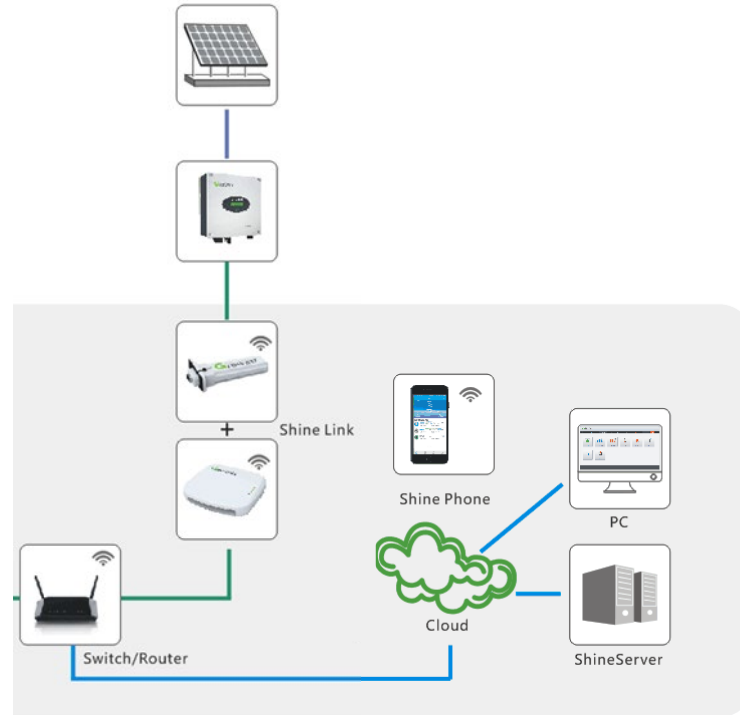
3.7. After successful configuration, it will move to “my plant” page, select inverter in device list to check the update information of inverter.

➤ Monitoring Devices

2. Growatt Shine Link



Growatt Shine Link



Growatt Shine Link Monitor System

➤ Monitoring Devices

2. Growatt Shine Link

Datasheet	Shine Link
Data Interface	RS232/USB
Support Network	RF433
Server Communication	TCP(Modbus TCP Protocol)
MAX. Communication range	150m (without wall)
MAX. Communication range	50m(one wall)
MAX. Communication range	20m(two wall)
Data Transfer Interval	5min
MAX Power Consumption	2W
Configure Type	APP Configure

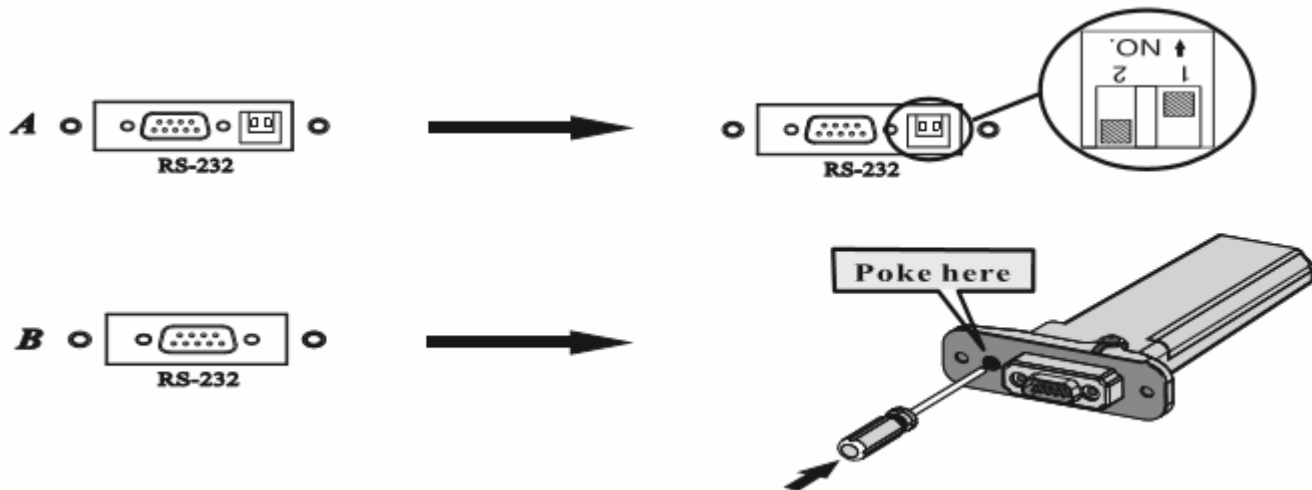
Some advantages:

- 1. Store data for more than 40 days even the network is outage**
- 2. Automatically acquire IP address**
- 3. Monitoring up to 8 inverters**
- 4. Up to 150m monitoring range**
- 5. Can be used to multi-inverters anti-reflux**

➤ Monitoring Devices

Growatt Shine Link Installation Guideline

Step.1. Connect RF stick with Inverter(RS232)



- 1.1. If the inverter RS-232 port is like A, switch the DIP1 switch to “ON”.
If the inverter RS-232 port is like type B, remove the rubber plug.

- 1.2. Connect RF stick to RS-232 port, and fix it with the screws

➤ Monitoring Devices

Growatt Shine Link Installation Guideline

Step.1. Connect RF stick with Inverter(USB)

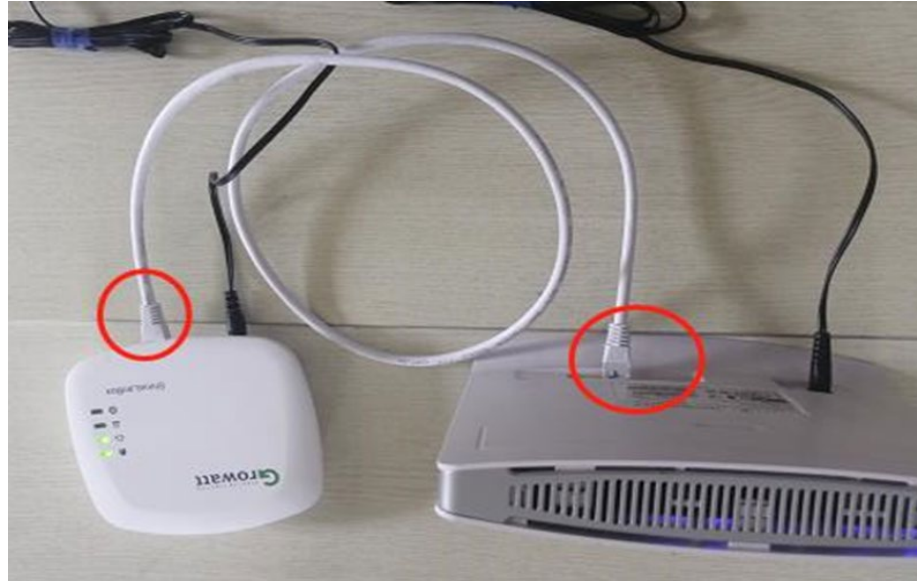


1.Plug the RF stick to the USB port, tighten the screw.

➤ Monitoring Devices

Growatt Shine Link Installation Guideline

Step.2. Connect Lanbox with router

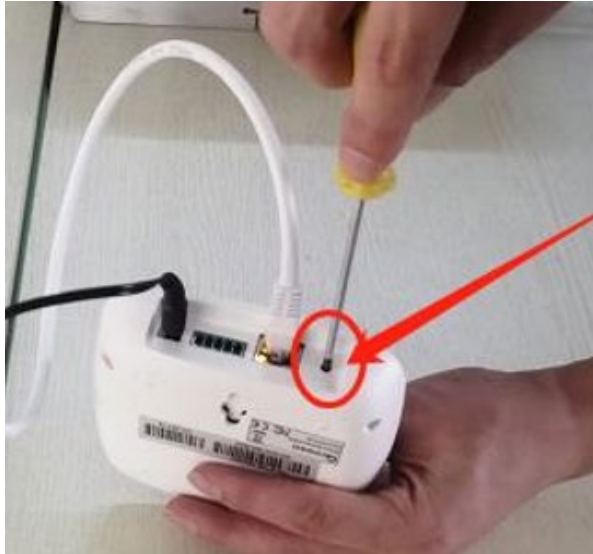


2. Connect the RJ45 interface of the ShineLanBox to the router ,then plug in the power adapter to power on the ShineLanBox.

➤ Monitoring Devices

Growatt Shine Link Installation Guideline

Step.3. Connect Lanbox with RF stick



3.1. Use a tool to press the tail hole of Lanbox more than 6S, after Lanbox is ready, power on the inverter then press the button of the RF stick (The stick with RS232 interface not need to press button).

➤ Monitoring Devices

Growatt Shine Link Installation Guideline

Step.3. Connect Lanbox with RF stick



3.2. After power on Lanbox, the Power LED on, Network LED flashing, then the ShineLanBox start to search the RF device and connect to the server.

Network LED on means connect to the server ok.

device LED flashing means devices connect ok.

If there are more than one RF device, please note the device LED continuous flashing times, it means the connected devices number.

➤ Monitoring Devices

Growatt Shine Link Installation Guideline

Step.3. Connect Lanbox with RF stick



3.2. After press the button of the RF stick, observe the LED of the stick.

Solid on: device is initializing

Solid off: no device found on RS232

port Flashing fast (change every 0.2s):
Found device on RS232

port Flashing slow (change every 1s):
network communication normally

➤ Monitoring Devices

Growatt Shine Link Installation Guideline

Step.3. Connect Lanbox with RF stick



3.2. After press the button of the RF stick, observe the blue LED of the stick.

Solid on: device is initializing

Solid off: no device found on RS232

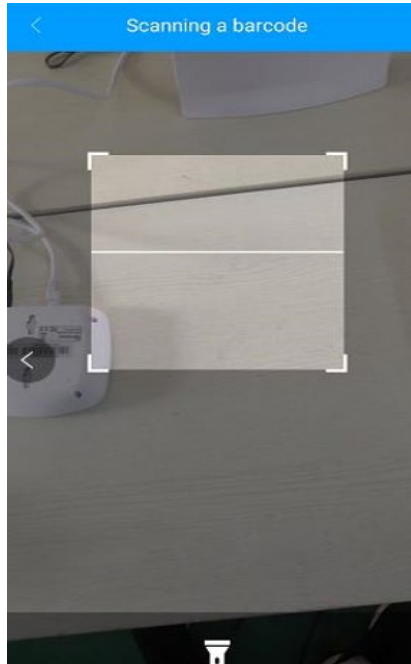
port Flashing fast (change every 0.2s):
Found device on RS232

port Flashing slow (change every 1s):
network communication normally

➤ Monitoring Devices

Growatt Shine Link Installation Guideline

Step.4. Use Shine Link



4.1. Download the Shinephone, register an account just like introduced before.

4.2. Enter the plant list, choose your plant, add datalogger.

4.3. Scanning the code on the bottom of the Lanbox, when my device list is appear, it successful.

➤ Monitoring Devices

Growatt Shine Link Installation Guideline

Append:

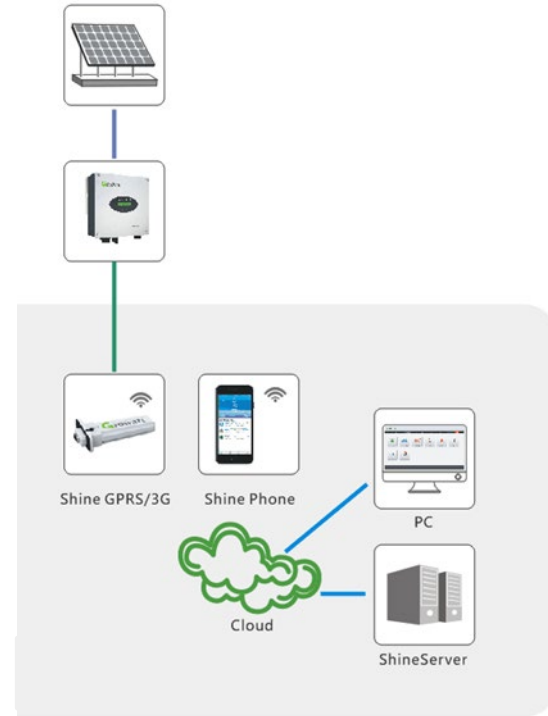
1. Short press the button of the ShineRFStick and ShineLanBox , entering the configuration mode, if successful, the configuration LED of the ShineLanBox will be off ,and the blue LED of the ShineRFStick will flash slowly.
2. Pressing the button of the ShineLanBox for more than 6 seconds until the four LED flash will clear the configuration information.

➤ Monitoring Devices

3. Growatt Shine GPRS



Growatt Shine GPRS



Growatt Shine GPRS Monitor System

➤ Monitoring Devices

3. Growatt Shine GPRS

Datasheet	GPRS
Data Interface	RS232/USB
Support Network	2G GSM/3G WCDMA
Server Communication	TCP(Modbus TCP Protocol)
Data Transfer Interval	5min
Working Temperature	-40°C~85°C
Configure Type	APP Configure

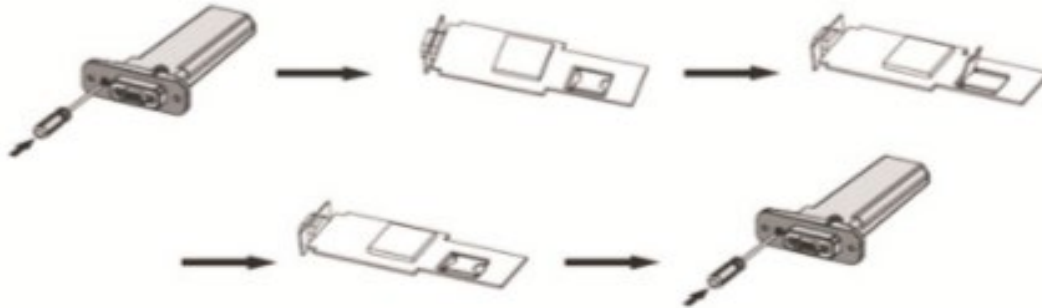
Some advantages:

- 1. 2G,3G network monitoring, suitable for rural area.**
- 2. Support remote service.**
- 3. Storage data for more than one month even network is outage.**

➤ Monitoring Devices

Growatt Shine GPRS Installation Guideline

Step.1. SIM card installation, connection between GPRS module and inverter



1.1. Remove the rubber plug, and loss the screws. Open the cover, and take out the PCB board, and insert the SIM card. Put the PCB back to the cover, tighten the screw, and put back the rubber plug.

1.2. Install the GPRS stick like WIFI stick.

➤ Monitoring Devices

Growatt Shine GPRS Installation Guideline

Step.2. Check the state of GPRS stick

Blue LED state	Indication
OFF	ShineGPRS not connected well with inverter RS232 port
Always ON	ShineGPRS initialization
Flashes fast (change every 0.2 sec)	ShineGPRS and inverter communication is OK
Flashes slow (Change every 1 sec)	ShineGPRS, network and inverter communication is OK

Red LED state	Indication
OFF	Network communication part not working
64ms ON 800ms OFF	Not found the network
64ms ON 3000ms OFF	Register to network
64ms ON 300ms OFF	GPRS Network communication OK

2. After install the GPRS module, turn on the inverter, red and blue LED flashing indicate that the inverter and GPRS communication succeed.

➤ Monitoring Devices

Growatt Shine GPRS Installation Guideline

Step.3. Registration and adding device



3.1. Adding device is same as before, scanning the code on the stick, when the device shows on the “device list”, you can check the inverter information now.

3.2. If want to set ShineGPRS to factory settings, remove the rubber plug, and press the KEY button for 6 sec until blue LED always ON.

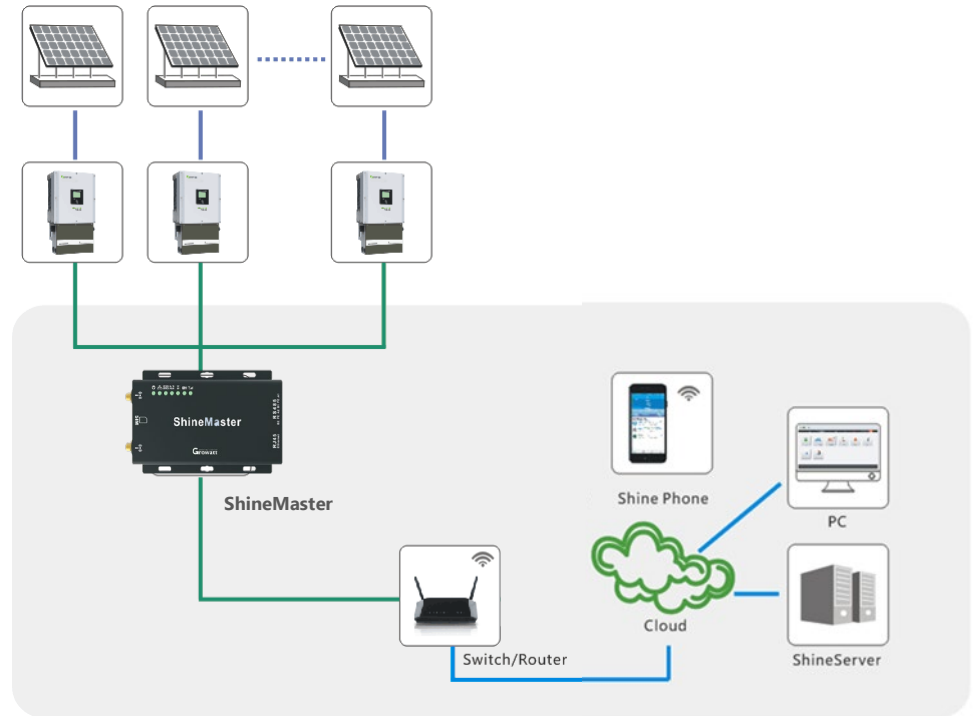
3.3.If want to restart ShineGPRS, short press the KEY button.

➤ Monitoring Devices

4. Growatt Shine Master



Growatt Shine Master



Growatt Shine Master Monitor System

➤ Monitoring Devices

3. Growatt Shine Master

Datasheet	GPRS
Data Interface	RS485
Support Network	WLAN (WIFI, GPRS comes in future)
Server Communication	TCP(Modbus TCP Protocol)
Max. Communication of RS485	500m
Max. Communication between router and master	100m
Data Transfer Interval	5min
Self-consumption	2.5W
Working Temperature	-30°C~ 60°C

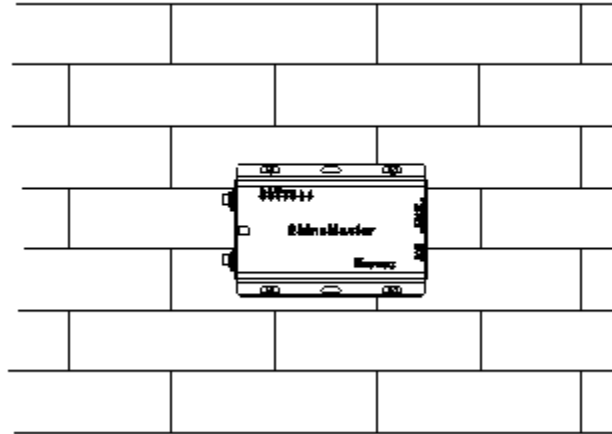
Some advantages:

- 1. Monitoring up to 32 inverters.**
- 2. Support remote service.**
- 3. Support export limitation with approved meter.**

➤ Monitoring Devices

Growatt Shinemaster Installation Guideline

Step.1. Wire connection of shinemaster



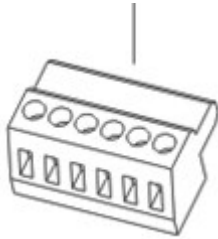
- 1.1. Install the shinemaster on the wall or on a flat.
- 1.2. Connect the cable between shinemaster and router.
- 1.3. Connect the power wire to shinemaster
- 1.4. Connect RS485 interface on shinemaster with the RS485 interface on inverter. (The detail shows in next page)

➤ Monitoring Devices

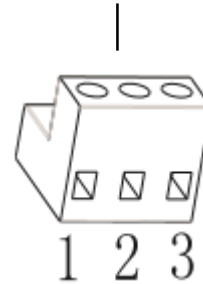
Growatt Shinemaster Installation Guideline

Step.1.4 Wire connection of RS485 interface

RS485 connection terminal of shinemaster



RS485 connection terminal of inverter

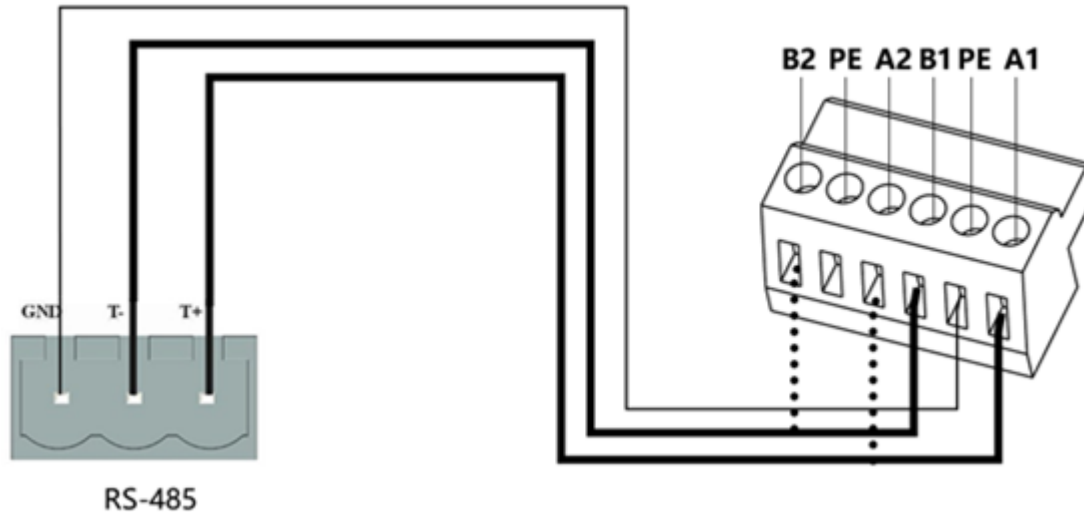


1.4.1. We supply RS485 connection terminal both for Shinemaster and inverters, which is like the picture shows on the top

➤ Monitoring Devices

Growatt Shinemaster Installation Guideline

Step.1.4 Wire connection of RS485 interface



1.4.2. Shinemaster connect with slave devices via RS485 wired connection.

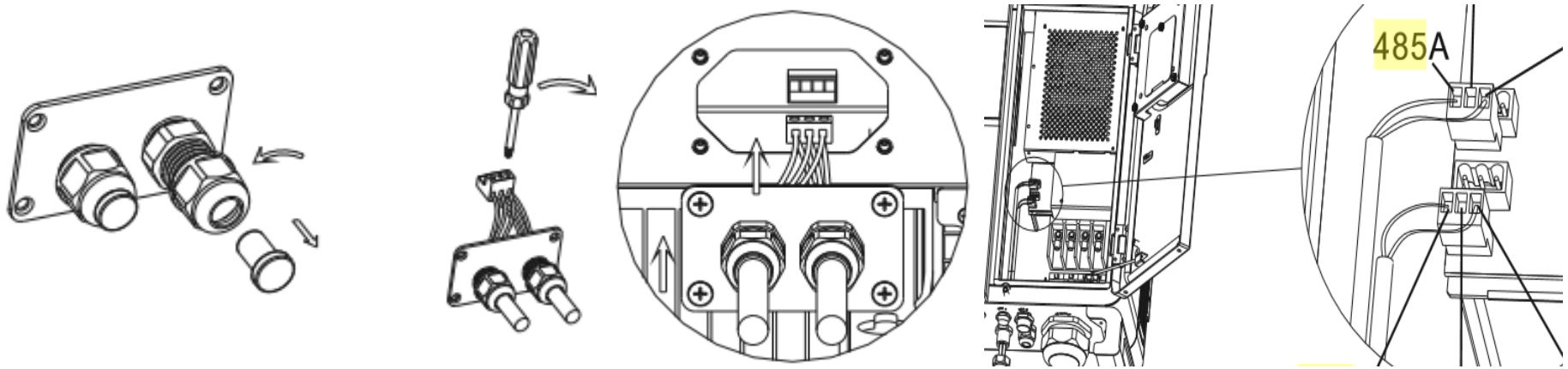
485 A+(T+) on the slave devices corresponds to A1+, A2+ on shinemaster and B-(T-) on the slave device corresponds to B1-, B2- on shinemaster.

Note: the shielded wire must be ground(PE) when communication distance is very long.

➤ Monitoring Devices

Growatt Shinemaster Installation Guideline

Step.1.4 Wire connection of RS485 interface

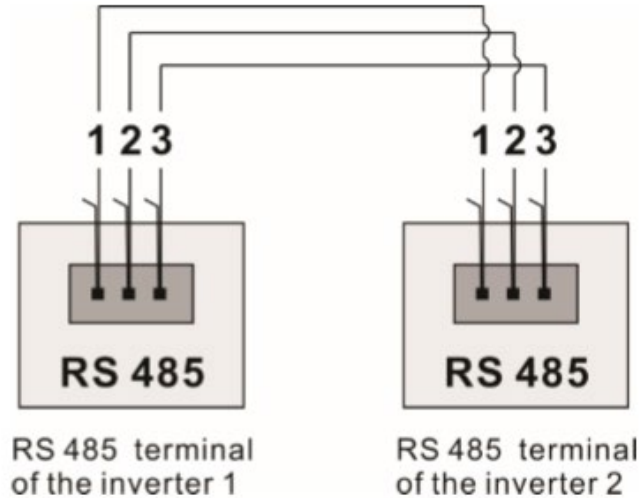


**1.4.3. The way to connect the wire of RS485 for inverter is like this.
Remove the water proof, make the wire cross the hole and connect it to the terminal.
After that, plug the terminal in inverter and cover the water proof back.**

➤ Monitoring Devices

Growatt Shinemaster Installation Guideline

Step.1.4 Wire connection of RS485 interface



1.4.4. The connection between inverters(slave devices) is using parallel connection. The slave devices connected like this one by one, the max. number of this connection is 32, which means the shinemaster can monitor 32 slave device at one time.

➤ Monitoring Devices

Growatt Shinemaster Installation Guideline

Step.2. Shinemaster internal page setting(Shinemaster IP address query)



2.1. As introduced before, we connect the inverter and PC LAN port to the router's network port use network cable which means they are in same LAN now.

2.2. Go to the router's management page(print the address which usually on the back of the router) and check the "Internet host list" to query the IP address of the ShineMaster IP address with the serial number of the ShineMaster as the device name.

(Note: The router needs to enable automatic IP assignment, that is, open the DHCP function)

2.3. Enter the ShineMaster IP address in the browser to enter the ShineMaster internal page

➤ Monitoring Devices

Growatt Shinemaster Installation Guideline

Step.2. Shinemaster internal page setting(Login shinemaster system)



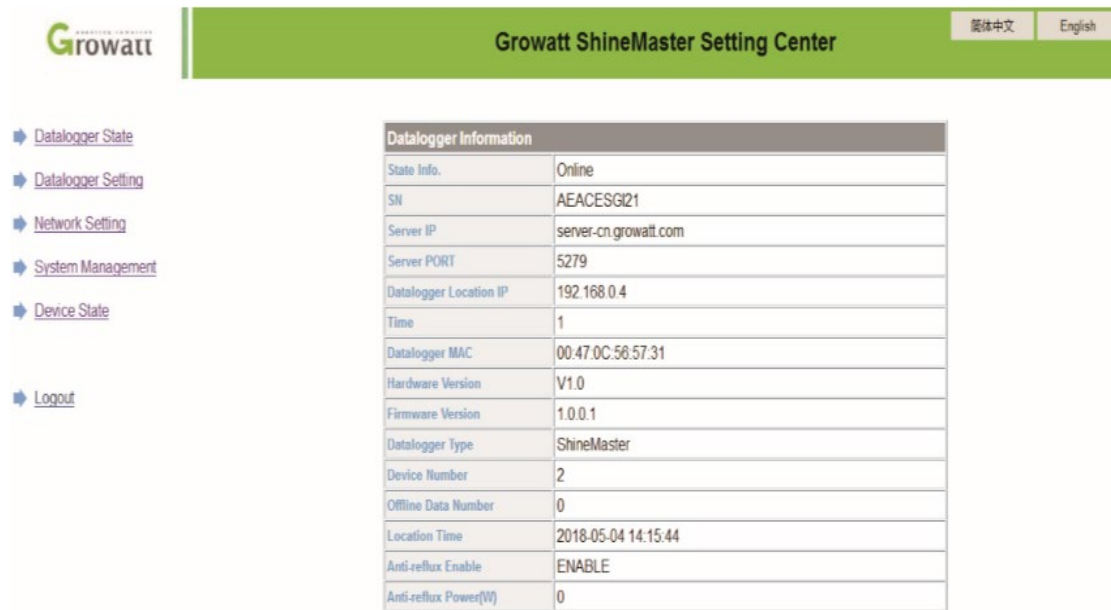
The screenshot shows the 'Growatt ShineMaster Setting Center' interface. At the top left is the Growatt logo. To the right of the logo is a green header bar with the text 'Growatt ShineMaster Setting Center' and two language selection buttons: '简体中文' and 'English'. On the left side, there is a vertical menu with the following items: 'Datalogger State', 'Datalogger Setting', 'Network Setting', 'System Management', 'Device State', and 'Logout'. In the center-right area, there is a login form with two input fields: 'UserName' and 'Password', and a 'Login' button below them.

2.4. If you do success before, then you can into a page like this, the default user name and password is: admin. Login, then you can into the shinemaster system.

➤ Monitoring Devices

Growatt Shinemaster Installation Guideline

Step.2. Shinemaster internal page setting(Check the datalogger state)



The screenshot displays the Growatt ShineMaster Setting Center interface. On the left, there is a navigation menu with the following items: Datalogger State, Datalogger Setting, Network Setting, System Management, Device State, and Logout. The main content area shows the 'Datalogger Information' table, which contains the following data:

Datalogger Information	
State Info.	Online
SN	AEACESG121
Server IP	server-cn.growatt.com
Server PORT	5279
Datalogger Location IP	192.168.0.4
Time	1
Datalogger MAC	00:47:0C:56:57:31
Hardware Version	V1.0
Firmware Version	1.0.0.1
Datalogger Type	ShineMaster
Device Number	2
Offline Data Number	0
Location Time	2018-05-04 14:15:44
Anti-reflux Enable	ENABLE
Anti-reflux Power(W)	0

2.5. Click “Datalogger state”, you can check “SN”, “Datalogger location IP”, “Device number” and some eles information about the datalogger.

➤ Monitoring Devices

Growatt Shinemaster Installation Guideline

Step.2. Shinemaster internal page setting(Add device)

The screenshot displays the Growatt ShineMaster Setting Center interface. On the left, there is a navigation menu with the following items: Datalogger State, Datalogger Setting, Network Setting, System Management, Device State, and Logout. The main content area is titled "Datalogger Setting" and contains the following fields and controls:

Datalogger Setting	
Net Mode	LAN
Anti-Reflux	<input checked="" type="radio"/> ON <input type="radio"/> OFF
Select Anti-Reflux flow meter	5 (Input Meter Addr or SN)
Reflux Power(W)	0 (XX to Grid, -XX to User)
RF Channel(0-18)	0
Datalogger Time(YYYY-MM-DD HH:MM:SS)	2018-05-04 14:34:53 <input type="button" value="Get Local Time"/>
Reboot Able	<input type="radio"/> Yes <input checked="" type="radio"/> No
Add or remove devices	NULL NULL <input type="radio"/> Add <input type="radio"/> Del
Set BaudRate	NULL RS485_1 <input type="radio"/> RS485_2
	RS485_1 <input type="button" value="Cancel"/>

2.6. Click “Datalogger setting” to this page, click “Add or remove devices” to choose monitoring port. Such as RS485_1 or RS485_2.

➤ Monitoring Devices

Growatt Shinemaster Installation Guideline

Step.2. Shinemaster internal page setting(Add device)

The screenshot shows the 'Growatt ShineMaster Setting Center' interface. On the left, there is a navigation menu with options: Datalogger State, Datalogger Setting, Network Setting, System Management, Device State, and Logout. The main content area is titled 'Datalogger Setting' and contains the following fields:

Net Mode	LAN
Anti-Reflex	<input checked="" type="radio"/> ON <input type="radio"/> OFF
Select Anti-Reflex flow meter	5 (Input Meter Addr or SN)
Reflex Power(W)	0 (XX to Grid, -XX to User)
RF Channel(0-10)	0
Datalogger Time(yyyy-mm-dd hh:mm:ss)	2018-05-04 14:24:15 <input type="button" value="Get Local Time"/>
Reboot Able	<input type="radio"/> Yes <input checked="" type="radio"/> No
Add or remove devices	RS485_1 <input type="button" value="Add"/> <input type="button" value="Del"/>
Set BaudRate	NULL <input type="button" value="Save"/>

The 'Add or remove devices' dropdown menu is open, showing the following options: NULL, INVERTER, SDM120, SDM630, and BatteryBox. The 'Set BaudRate' dropdown menu is also open, showing the same options.

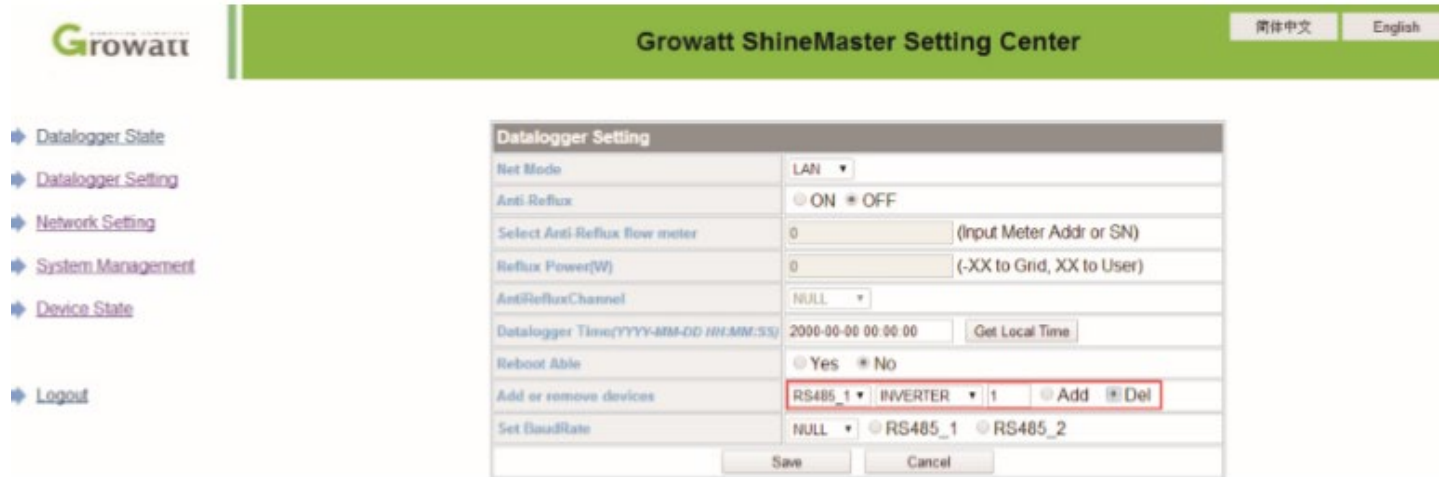
2.7. Click the second drop list, choose the type of device, such as “inverter”, “SDM120,SDM630”(Meter), “battery box”. **Fill the communication address on the third list**, click save then the device will be added. Enter the “Device state” to check whether it add successfully.

Note: If the page do not refresh for a long time when click save, you can try to disconnect the Shinemaster and restart it, then click “Datalogger state” to check if it successful for last time save.

➤ Monitoring Devices

Growatt Shinemaster Installation Guideline

Step.2. Shinemaster internal page setting(Delete device)



The screenshot shows the Growatt ShineMaster Setting Center interface. The main title is "Growatt ShineMaster Setting Center" with language options for "简体中文" and "English". On the left, there is a navigation menu with options: "Datalogger State", "Datalogger Setting", "Network Setting", "System Management", "Device State", and "Logout". The "Datalogger Setting" page is active, displaying various configuration options:

Datalogger Setting	
Net Mode	LAN
Anti Reflux	<input type="radio"/> ON <input checked="" type="radio"/> OFF
Select Anti Reflux flow meter	0 (Input Meter Addr or SN)
Reflux Power(W)	0 (-XX to Grid, XX to User)
AntiRefluxChannel	NULL
Datalogger Time(YYYY-MM-DD HH:MM:SS)	2000-00-00 00:00:00 <input type="button" value="Get Local Time"/>
Reboot Able	<input type="radio"/> Yes <input checked="" type="radio"/> No
Add or remove devices	RS485_1 INVERTER 1 <input type="button" value="Add"/> <input checked="" type="button" value="Del"/>
Set baudRate	NULL <input type="radio"/> RS485_1 <input type="radio"/> RS485_2
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

2.8. The step is just same as add device, but the different is to choose Del then click save. Enter the “Device state” to check if it was delete successfully.

➤ Monitoring Devices

Growatt Shinemaster Installation Guideline

Step.2. Shinemaster internal page setting(Fixed the IP address of Shinemaster)

The screenshot displays the Growatt ShineMaster Setting Center interface. The top navigation bar includes the Growatt logo, the title "Growatt ShineMaster Setting Center", and language selection buttons for "简体中文" and "English". A left sidebar contains navigation links: "Datalogger State", "Datalogger Setting", "Network Setting", "System Management", "Device State", and "Logout". The main content area shows the "Network Setting" configuration page. A red box highlights the "DHCP Enable" section, which is currently set to "OFF". Below this, the "Local IP" is set to "192.168.0.23", "NetGate" to "192.168.0.1", "NetMask" to "255.255.255.0", and "DNS" to "192.168.0.1". Other settings include "ResolveDomain" (ON/OFF), "Server Domain" (server.growatt.com), "Server IP" (47.91.67.66), "Server Port" (5279), and "Data Transfer Interval" (5 minutes). "Save" and "Cancel" buttons are at the bottom.

NetWork Setting	
DHCP Enable	<input type="radio"/> ON <input checked="" type="radio"/> OFF
Local IP	192.168.0.23
NetGate	192.168.0.1
NetMask	255.255.255.0
DNS	192.168.0.1
ResolveDomain	<input checked="" type="radio"/> ON <input type="radio"/> OFF <input type="button" value="Resolve OK"/>
Server Domain	server.growatt.com
Server IP	47.91.67.66 <input type="button" value="CONN OK"/>
Server Port	5279
Data Transfer Interval	5 (Minutes)
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

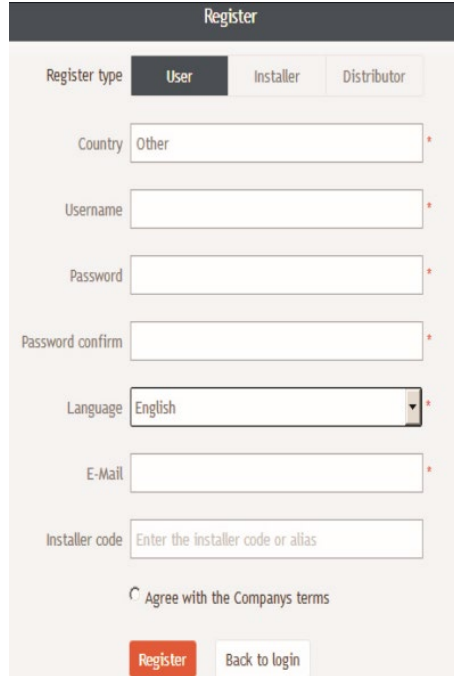
2.9. If you want to fix your IP address of the Shinemaster, click “Network Setting”, turn off the DHCP function.

Put in the fixed IP, network management, net mask and DNS then click “Save”.

➤ Monitoring Devices

Growatt Shinemaster Installation Guideline

Step.3. Use Shineserver to check the monitoring data of Shinemaster



The image shows a web form titled "Register" with a dark header. Below the header, there are three tabs: "User" (selected), "Installer", and "Distributor". The form contains several input fields, each with a red asterisk indicating it is required:

- Country: A text input field containing "Other".
- Username: An empty text input field.
- Password: An empty text input field.
- Password confirm: An empty text input field.
- Language: A dropdown menu showing "English".
- E-Mail: An empty text input field.
- Installer code: A text input field with the placeholder text "Enter the installer code or alias".

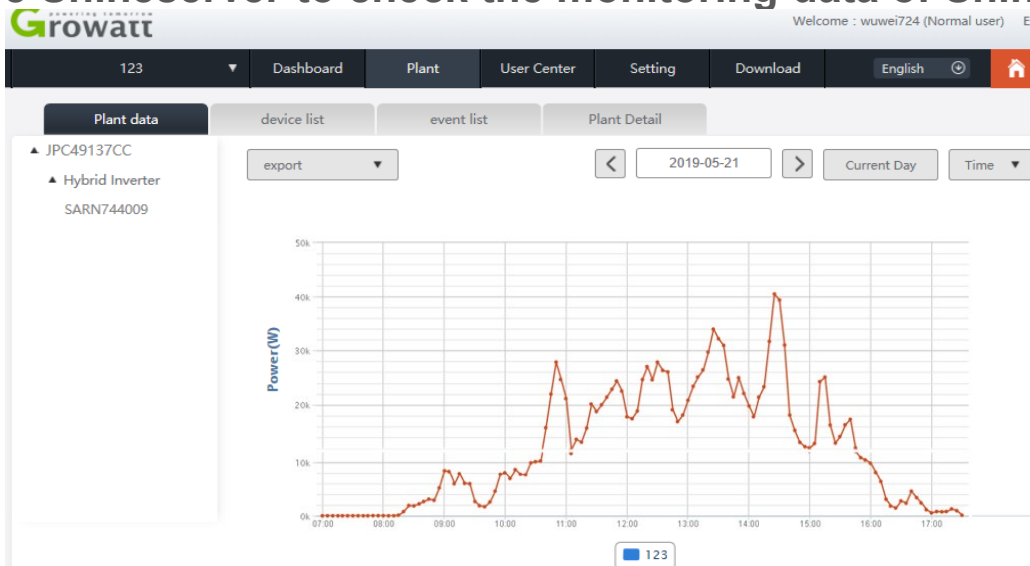
At the bottom of the form, there is a radio button labeled "Agree with the Company's terms" which is currently unchecked. Below the radio button are two buttons: a red "Register" button and a white "Back to login" button.

3.1. Enter address “http:// server.growatt.com”, Register your account with the instructions. After register successfully, it will automatically jump to the ShineServer main interface.

➤ Monitoring Devices

Growatt Shinemaster Installation Guideline

Step.3. Use Shineserver to check the monitoring data of Shinemaster

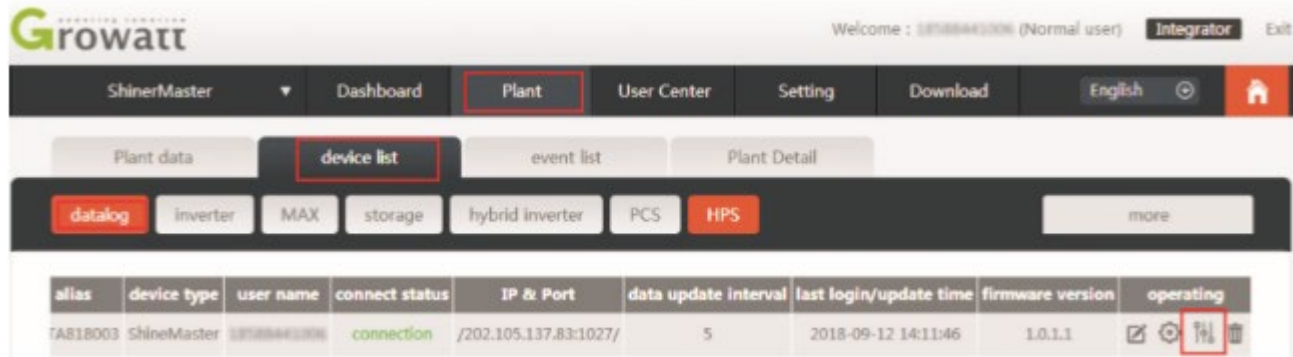


3.2. Click "plant" → "plant data" , and the displayed information is the total power chart of the plant on the day. The drop-down list "Select collector" can be used to view the daily power chart of a single inverter in the power station.




➤ Monitoring Devices

Growatt Shinemaster Installation Guideline

Step.3. Use Shineserver to check the monitoring data of Shinemaster



The screenshot displays the Growatt ShinerMaster web interface. The top navigation bar includes 'ShinerMaster', 'Dashboard', 'Plant' (highlighted with a red box), 'User Center', 'Setting', 'Download', 'English', and a home icon. Below this, a sub-menu shows 'Plant data', 'device list' (highlighted with a red box), 'event list', and 'Plant Detail'. A secondary menu contains 'datalog', 'inverter', 'MAX', 'storage', 'hybrid inverter', 'PCS', 'HPS', and 'more'. The main content area features a table with the following data:

alias	device type	user name	connect status	IP & Port	data update interval	last login/update time	firmware version	operating
TA818003	ShineMaster	38788442006	connection	/202.105.137.83:1027/	5	2018-09-12 14:11:46	1.0.1.1	  

3.3. You can also add or delete the device and set many parameters on the shineserver.

➤ Monitoring Devices

Growatt Shinemaster Installation Guideline

Step.3. Use Shineserver to check the monitoring data of Shinemaster

Datalog setting

Device update

communication method: RS485_1

Device address: 1

device type: Growatt Inverter

status: add

Baud rate

The first baud rate: 4800

Second baud rate: 4800

save cancel

Datalog setting

Device update

communication method: RS485_1

Device address: 1

device type: Growatt Inverter

status: Delete

Baud rate

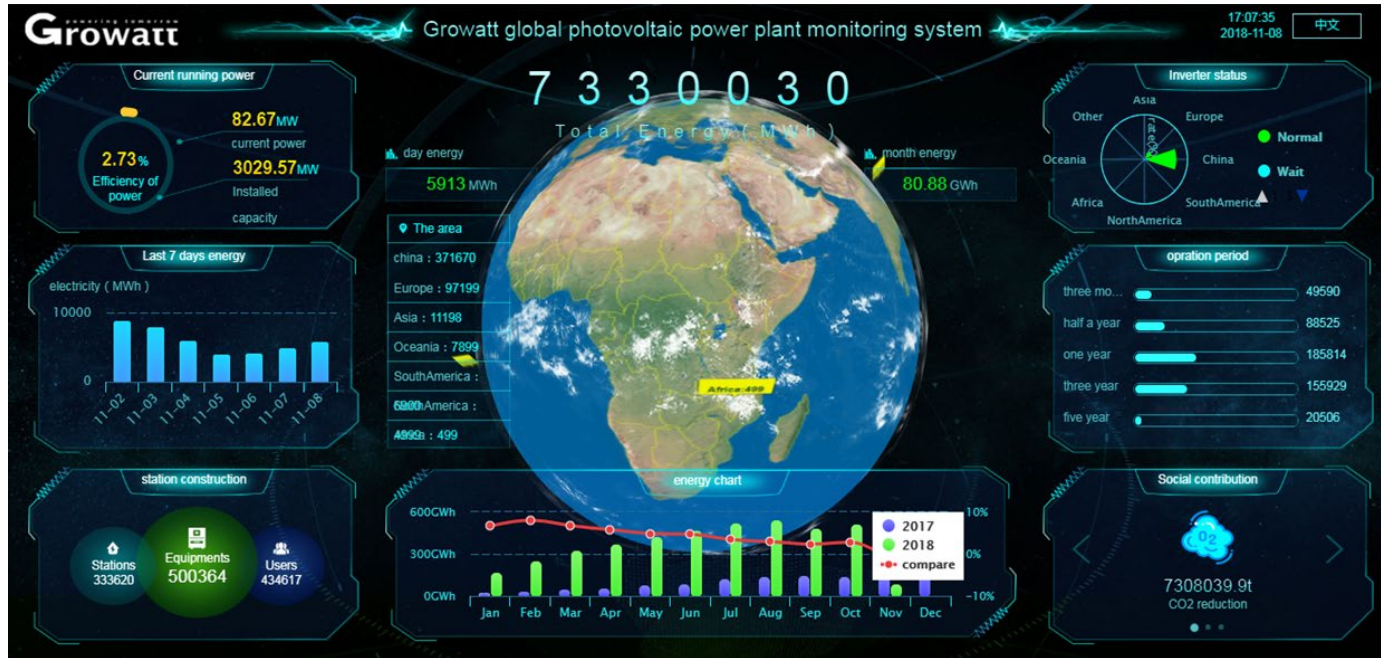
The first baud rate: 4800

Second baud rate: 4800

save cancel

➤ Monitoring Platform

1. OSS System



- Online failure reporting
- Remote parameter setting
- Remote firmware upgrading
- No need site travelling
- Reduce maintenance cost

24*7 online scanning of working status of more than 400, 000 inverters connected to Growatt server globally, report to service team to proceed aftersales service if any failure found



THANK YOU