

DataHub User Manual

1、Log in

Datahub has three connection and login methods: wired, wifi, hotspot.

Wired login : Datahub is connected to the router through a network cable, and the computer is connected to the same router and access <http://datahub.local/> to enter the login interface.

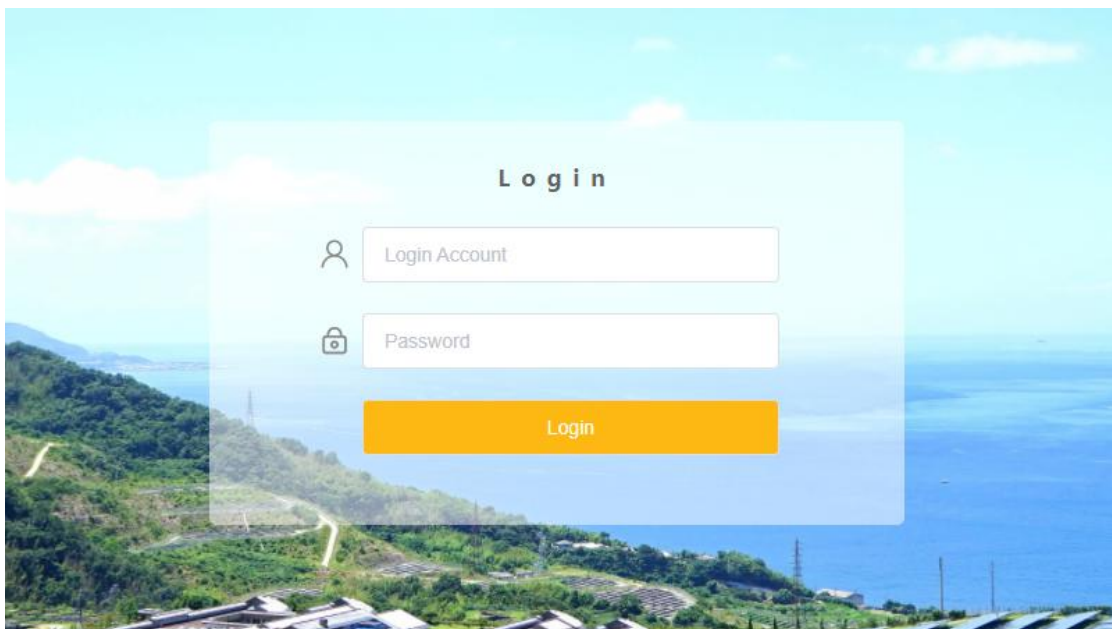
Hotspot login: Connect the computer to the DATA_HUB hotspot, and use computer to access 192.168.1.1 to enter the login interface. (The hotspot mode cannot connect to the external network, and cannot connect to the cloud platform to upload data. It is not recommended to use it. It is recommended to switch from hotspot login to WiFi login. If you need to switch to hotspot mode, refer to 2.9 System reset.)

Wifi login : After using hotspot to log in, go to the network settings in the system settings, connect the datahub with wifi and restart the datahub, connect the computer to the same wifi, and visit <http://datahub.local/> to enter the login interface.

Administrator account: admin, Password: Registration Number

User account: user, Password: Registration Number

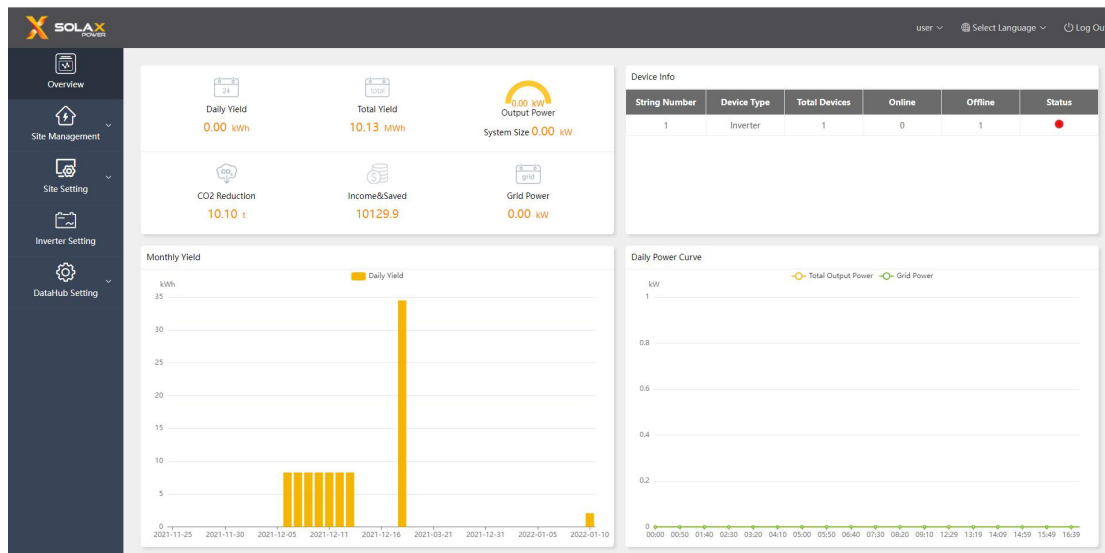
Visitor account: visitor, Password: 123456



2、Features

Login to the datahub system, the system includes five modules: Overview, Site Management, Site Setting, Inverter Setting, and Datahub Setting.

The add devices will be introduced first, and then other modules will be introduced in turn.



2.1、Add Device

2.1.1、Serial port setting

The user can choose the four types of serial ports of the datahub to set the baud rate, the stop bit and save the device type. Currently supported device types: inverter, environmental detector, electricity meter. The device types under the same serial port are the same. For example, if the inverter device under the serial port 1 is set to baud rate of 19200, then other inverters under the serial port 1 will be set to a baud rate of 19200.

Select the baud rate of the serial port the same as the baud rate rate of the inverter;

Select the stop bit, the default value is 1, the modbus stop bit is 1 or 2, the default value is 1;

Select the device type under the serial ports;

Save the settings.

String Number	Agreement Type	Baud Rate	Verification Method	Stop Bit	Device Type
1	modbus	12000	No Verification	1	Inverter
2	modbus	9600	No Verification	1	Inverter
3	modbus	9600	No Verification	1	Meter
4	modbus	9600	No Verification	1	Meter

2.1.2、Add Device

- ① Select the Add Device under Site Management; (If the zero output has been turned on, you need to turn off the zero output before adding the device.)
- ②, ③ Set the initial address and the number of devices under the serial port, (the addresses are continuous, for example, the initial address is 3, the number of devices is 4, the occupied addresses of the devices are 3, 4, 5, 6, and the occupied addresses cannot be used again, the interface will prompt;



- ④ Click Save;
- ⑤ After clicking save, the Device Detail will pop up, the system will identify the device model automatically, then click save. (if the serial number or device model shows unknow, please click update device type and save.)

String Number	Device Type	Initial Address	Number of Devices
1	Inverter	1	1
2	Inverter	Please Select	Please Select
3	Inverter	Please Select	Please Select
4	Meter	Please Select	Please Select

Device Detail

String Number	Device ID	SN	Device Type	Device Type
1	1	unknown	Inverter	unknown
2	2	unknown	Inverter	
3	3	unknown	Inverter	
3	4	unknown	Inverter	
3	5	unknown	Inverter	
4	6	meter-6	Meter	

Update Device Type Save

2.1.3、 Overview

The device is added successfully. Check the device information in the overview interface. If one of the devices under a serial port is offline, the status bar will display red.

The Overview interface displays the following information:

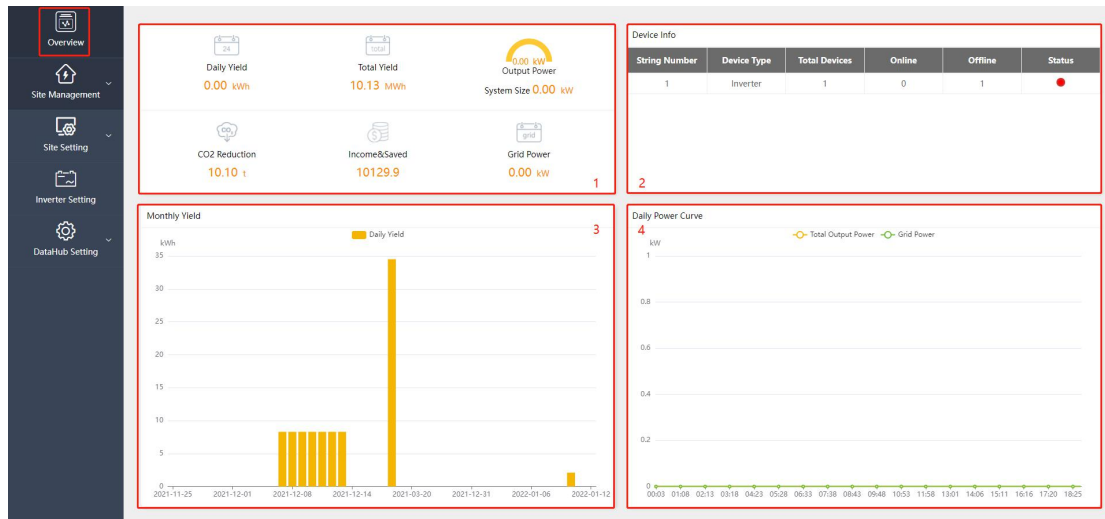
- Summary Metrics:**
 - Daily Yield: 0.00 kWh
 - Total Yield: 10.13 MWh
 - System Size: 0.00 kW
 - CO2 Reduction: 10.10 t
 - Income & Saved: 10129.9
 - Grid Power: 0.00 kW
- Device Info Table:**

String Number	Device Type	Total Devices	Online	Offline	Status
1	Inverter	1	0	1	●
2	Inverter	1	0	1	●
3	Inverter	3	0	3	●
4	Meter	1	0	1	●
- Monthly Yield Chart:** A bar chart showing daily yield in kWh from 2021-11-25 to 2022-01-12. A significant spike is visible around 2021-12-20.
- Daily Power Curve Chart:** A line chart showing Total Output Power (kW) and Grid Power (kW) over a 24-hour period from 00:03 to 19:36.

2.2、 Overview

The overview page displays the data information of datahub, divided into four pieces of content:

- ① Daily Yield, Total Yield, Output Power, CO₂ Reduction, Income & Saved, Grid Power;
- ② Device Information: view the device status and device information under the serial ports;
- ③ Monthly Yield: display the daily yield in the form of a bar chart;
- ④ Daily Power Curve: divided into Total Output Power and Grid power.



2.3、 Site Management

Site Management is divided into two parts: 1. Add Device 2. Device Detail. Adding device has been introduced in 2.1, and the device detail is introduced below.

2.3.1 Device Detail

There are two functions in Device Detail :Export Data and Inverter Data Details.

Export 3

String Number	Device ID	SN	Device Type	Device Type	Operating Status	Version
1	1	unknown	Inverter	J1-ESS-HB	unknown	0.00
2	2	unknown	Inverter	MIC-G2	unknown	0.00
3	3	unknown	Inverter	PRO-G2	unknown	0.00
4	4	meter-4	Meter	unknown	unknown	0.00

Export Data:

Select the inverter to be exported;

Click Export, the date selection will pop up, select the start date and end date and then export, (Note: the maximum export time is two months, the larger amount of data, the longer time of export, it is recommended that each export time interval 3- 4 days, please do not perform other operations when exporting data.) The file will be exported in the format of a zip archive, which is an excel file, and the file name format is: device serial number_start time_end time.xlsx, eg: MC215TH7212004_2021 -09-01_2021-09-28.xlsx.

Data details:

Click on the inverter you want to view, the data details web page will pop up, you can view the historical data by selecting the date.

Note: The daily data cannot be exported. If the power is interrupted during the running of the program, the data before the power failure of the day will be lost.

2.4、 Site Setting

Site Setting is equipped with three modules, which are Anti-counterflow Setting, Power Control and Meter Reversion.

2.4.1、 Anti-counterflow Setting

The purpose of the anti-counterflow setting is to limit the power supply to the grid. Generating electricity to the grid, and the power is positive; taking electricity from the grid, and the power is negative.

For example,

、 The anti-counterflow power is set to 0kw, the inverter generates 5KW, the load uses 4KW, and the inverter generates more power $5\text{kw} - 4\text{kw} = 1\text{kw}$, datahub will limit the inverter to generate 4kw;

、 The anti-counterflow power is set to 2kw, the inverter generates 5kw, the load uses 4kw, the inverter generates more $5\text{kw} - 4\text{kw} = 1\text{kw} < 2\text{kw}$, this 1kw supplies power to the grid, if the inverter generates 7kw, the load uses 3kw, and the reverse The inverter generates 4kw more, the anti-counterflow power is set to 2kw, $4\text{kw} - 2\text{kw} = 2\text{kw}$, the datahub should limit the photovoltaic power generation to $7\text{kw} - 2\text{kw} = 5\text{kw}$,

The control methods are divided into average phase control and minimum phase control. When the anti-counterflow power is 0, there is no difference between the two for single-phase inverters, it strictly does not supply power to the grid. As for a three-phase inverter: the average phase control is the sum of the three phases supplying power to the grid and taking power from the grid and canceling each other out. For example: the three-phase loads are 3kw, 4kw, 5kw and a total of 12kw. Under the average phase control mode, the power generation of the three-phase inverter is 4kw, 4kw, and 4kw, a total of 12kw. Under the minimum phase control, the generation power of the three-phase inverter is 3kw.

Anti-counterflow Setting

Anti-counterflow Enable	OFF <input type="checkbox"/> ON <input checked="" type="checkbox"/>
Control Mode	<input type="text" value="Average Phase Control"/>
* Anti-counterflow Power(W)	<input type="text" value="1000"/>
🔔 Feedin [+] , Consumed [-]	
<input type="button" value="Reset"/>	<input type="button" value="Submit"/>

2.4.2、 Power Control

Power Control includes: Dry Contact Control and DRM Control Disable.

2.4.2.1、 Dry Contract Control

The dry contact control is to control the active power and reactive power of the inverter according to the high and low input state of the DI port. There are a total of 16 situations for user to set the active and reactive power according to each situation.

Display D1, D2, D3, D4 situations of DI port, green means the external input is high, white means the external input is low, a total of 16 situations;

Select the situation to be set;

Select active power control or reactive power control;

When active power control is selected, input the active power to be set, select reactive power control, and input the reactive power factor and reactive power mode to be controlled. The reactive power mode is divided into OverExcited and UnderExcited modes;

Submit and save settings.

1		2		3		4		
D4	D3	D2	D1	Select	Setting	Active Power P(0-100)	Reactive Power Q(80-100)	Reactive Mode
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Please Select	0-100	80-100	Please Select
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Please Select	0-100	80-100	Please Select
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Please Select	0-100	80-100	Please Select
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Please Select	0-100	80-100	Please Select
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Please Select	0-100	80-100	Please Select
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Please Select	0-100	80-100	Please Select
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Please Select	0-100	80-100	Please Select
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Please Select	0-100	80-100	Please Select
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Please Select	0-100	80-100	Please Select
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Please Select	0-100	80-100	Please Select
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Please Select	0-100	80-100	Please Select
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Please Select	0-100	80-100	Please Select
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Please Select	0-100	80-100	Please Select
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Please Select	0-100	80-100	Please Select
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Please Select	0-100	80-100	Please Select

2.4.2.2、 DRM Control

DRM control is to set the active power according to the level of A0, A1, D1, D2 and D3 of DI ports. If you need to turn off the DRM control, it needs to be shut down on the system before unplugging the external circuit.

- ① Select DRM control;
- ② Submit settings.

Note: The current state of the device can be viewed in the Current States column, to control the limit value of active power, and to give planned notifications according to the input of the DI port. (Green means the input is high, red means the input is low, and the gray input is high and low will not affect)

Dry Contact Control
 DRM Control
 Disable

Current Status	DRM Mode	A0	A1	D1	D2	D3	Active Power
	0	●	●	●	●	●	Turn Off
	5	●	●	●	●	●	0
	6	●	●	●	●	●	50%
	7	●	●	●	●	●	75%
	8	●	●	●	●	●	100%

2.4.3、 Meter Reversion

Meter Reversion is a function for the customer's meter to be reversed without rewiring. Just click to open and submit.

Meter Reversion

meter-4: Disable Enable

2.5、 Inverter Setting

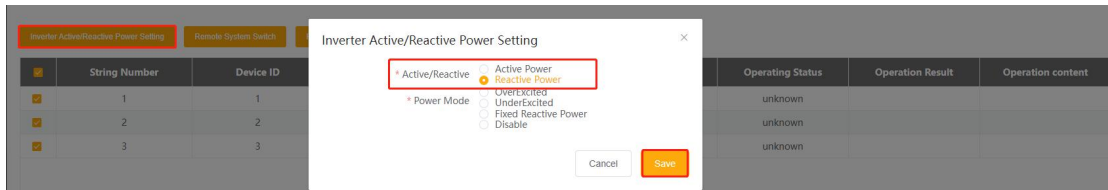
Inverter setting provides three functions: Inverter Active/Reactive Power Setting, Remote System Switch and Parameter Setting. Users can query the desired model through the serial port and model filter conditions.

The screenshot shows the 'Inverter Setting' page. At the top, there is a 'Serial Port' dropdown menu with options 1, 2, 3, 4 and a 'Type' dropdown menu with a 'Please Select' placeholder. Below these is a search bar. A dropdown menu is open, showing a list of inverter models: J1-ESS-HB, MIC-G2, PRO-G2, X3-FORTH, and X3-MEGA. Below the dropdown is a table with columns: String Number, Dev, Device Type, Device Type, Operating Status, Operation Result, and Operation content. The table contains three rows of data.

2.5.1、 Set active/reactive power of inverter

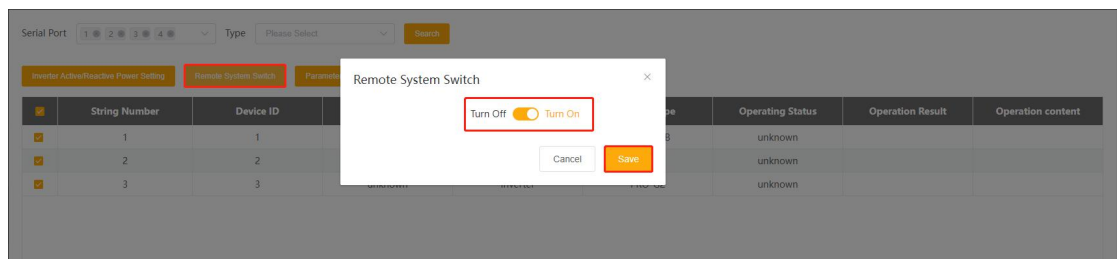
- Select the inverter to be set (multiple selections are available for batch setting);
- Click to set the inverter active/reactive power, a window will pop up;
- Select the Remote System Switch mode. When active power is selected, fill in the active power value in , when reactive power is selected, it is divided into lead, lag fixed reactive power and off mode;
- Fill in the value to be set;
- Save setting.

The screenshot shows the 'Inverter Active/Reactive Power Setting' dialog box. It has a title bar with a close button. Below the title bar, there are two radio buttons: 'Active/Reactive' and 'Active Power Reactive Power'. The 'Active Power Reactive Power' option is selected. Below the radio buttons, there is a text input field with the value '0'. At the bottom of the dialog, there are 'Cancel' and 'Save' buttons. In the background, a table is visible with columns: String Number, Device ID, Operating Status, Operation Result, and Operation content. The table contains three rows of data.



2.5.2、 Remote System Switch

- ① Select the inverter equipment to be controlled; (multiple selections can be set in batches)
- ② Click on the remote switch;
- ③ Select the power off/on button;
- ④ Save the settings.



2.5.2、 Parameter Setting

Select the inverter equipment to be controlled (multiple selections can be set in batches);

Click on parameter settings;

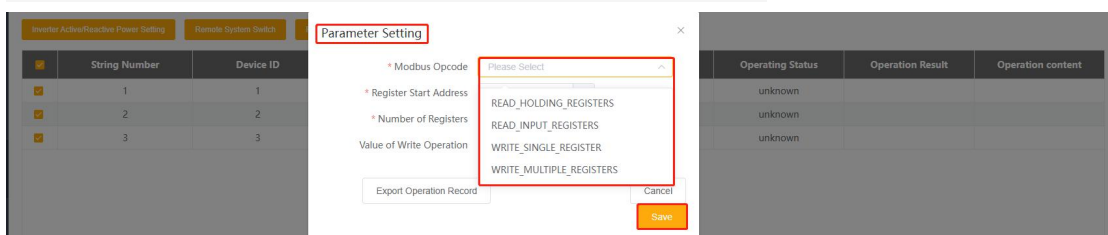
Select the modbus opcode, which is divided into read holding register, read input register, write single register, and write multiple registers;

Fill in the address of the register to be operated, for example: the starting address is 3, the number of registers is 4, and the register address of the operation is 3, 4, 5, 6;

Save operation;

You can view the result of the operation at ⑥.

Export operation records: Export all previous operation records.



2.6、 Inverter Upgrade

Inverter upgrade is to upgrade the local inverter in a remote way.

Select the inverter to be upgraded;

Click the upgrade button, and the inverter upgrade window will pop up;

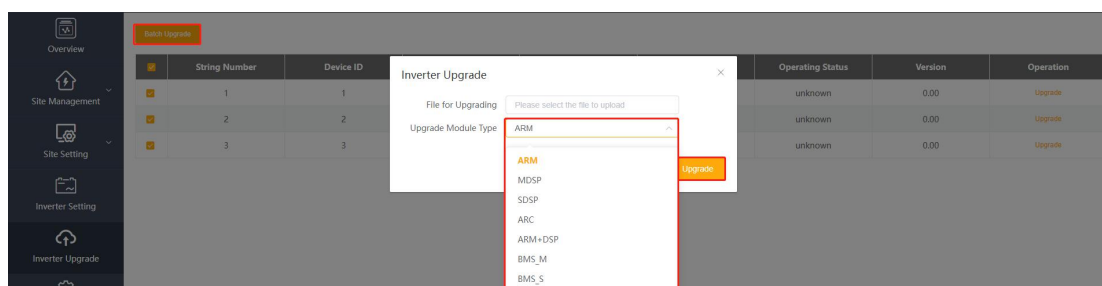
Click to select the updated file;

Select the type of module to be upgraded;

Click Upgrade, the system will display the upgrade interface, and it will take a while for the upgrade to succeed.



If you want to upgrade in batches, select the inverters to be upgraded at ①, click Batch upgrade, and follow the steps of ③ and ④.



2.7、 System Setting

System Setting includes six functions: Internet Setting, Time Setting, String Setting, Other Setting, Datahub Info, and Datahub Upgrades.

2.7.1、 Internet Setting

Through Internet Setting to set the ip address of the datahub. You can choose to get it automatically, or you can enter the relevant value manually.

Select wired network card or wireless network card. If you use a network cable to connect to the network, choose a wired network card, and if you use wifi to connect to the network, choose a wireless network card;

Select the switch to obtain an IP address automatically. If it is set to obtain an IP address automatically, click Save after the selection is complete. If you turn off the automatic acquisition, you need to follow the steps below;

Fill in the correct ip address;

Fill in the correct subnet mask;

Fill in the correct gateway address;

Fill in the correct DNS address;

⑦ Click Submit.

Note: If you enter the address-related information manually, you must ensure that the input data of ③-⑥ is correct, otherwise the datahub network will be disconnected and the system cannot be accessed through the front-end page (you need to press and hold the restore button on the datahub body to restore the initial settings)

A screenshot of a network configuration form. The form contains the following fields and controls, each with a red box and a number: 1. NIC Type dropdown menu (set to 'Wired NIC'); 2. DHCP toggle switch (set to 'NO'); 3. IP Address text input field; 4. Subnet mask text input field; 5. Gateway text input field; 6. DNS text input field; 7. Submit button (orange) and Reset button (grey).

2.7.2、 Time Setting

Time Setting includes four modes: Time Synchronization, SolaXCloud Synchronization, Other Server Synchronization, and Remote Output Synchronization.

Time Synchronization: the system automatically corrects the time;

SolaXCloud Synchronization: the SolaX platform sends a time synchronization command to change the system time;

Other Server Synchronization: The IEC104 server sends the time synchronization command to change the system time;

Remote Output Synchronization: set the time synchronization server, the customer needs to obtain it from the power station, and change the system time according to the time synchronization server.

When automatic timing, SolaXCloud Synchronization and Other Server Synchronization are selected:

- ① Select setting mode;
- ② Click the Submit button.

A screenshot of the 'Time Setting' dropdown menu. The menu is titled 'Time Setting' and has a search icon. The dropdown list shows four options: 'Time Synchronization' (highlighted in orange), 'SolaXCloud Synchronization', 'Other Server Synchronization', and 'Remote Output Server Synchronization'. A red box highlights the entire dropdown menu.

When selecting a remote output pair:

Remote Output Synchronization is divided into automatic timing and manual timing.

Automatic time synchronization:

- ① Fill in the IP of the timing server;
- ② Click the Submit button to confirm the settings.

Time Setting

* Time Setting Mode	Remote Output Server Synchronization	
Time Synchronization Mode	Time Synchronization	
* Time Server		Enter
	Reset	Submit

Manual time synchronization:

- ① Click to select the date and time box
- ② Select the date to be set
- ③ Click to select the time, it will pop up
- ④ Select the time to be set
- ⑤ Click OK to confirm the selection
- ⑥ Click Submit to confirm the settings

Note: If you need to set the current time, you can click ⑦ and then confirm the selection.

When setting the manual time adjustment of remote output, it can only be modified within the current ten minutes. If it exceeds ten minutes, the modification will fail.

Time Setting

* Time Setting Mode	Remote Output Server Synchronization	
Time Synchronization Mode	Manual Time Synchronization	
* Manual Time Synchronization	Select Date	
	Reset	Submit

2.7.3、 Other Setting

Other settings include: Cloud Platform Setting, Database Storage Settings, Electricity Price Setting and CO₂ Saving Factor.

2.7.3.1、 Cloud Platform Setting

The platform setting is the setting of the data upload platform, the default is to send to the SolaXCloud, and the others are send to the IEC104 server.

- ① Select the data upload platform, divided into Airlo and others,
- ② If you choose Airlo, you don't need to set it. If you choose other, you need to fill in the local address and the iec104 server address iec104 server port.
- ③ Submit.

Cloud Platform Setting

Data Upload Platform	Other	
* Local Address		
* Platform Server Address		
* Platform Server Port		
	Download Point Table	Reset Submit

Download point table: The download file name is point_table.xls. This table is the data uploaded to the inverter corresponding to the IEC104 telemetry point number when the IEC104 upload is selected. For example: 16385 corresponds to the System switch with serial port number 1 of 1. parameter.

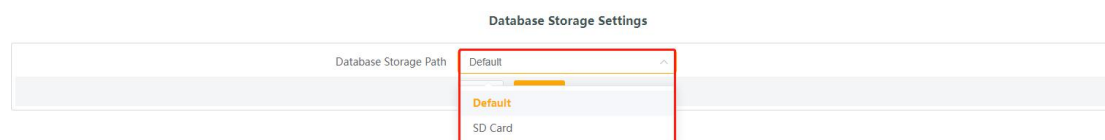
Note: The point table cannot be exported without adding a device

	A	B	C	D	E	F
1	Telemetry Point Number	Number	Device Index	Telemetry Name	Accuracy	Unit
2	16385	0	1#1#J1-ESS-HB	System switch	1	/
3	16386	1	1#1#J1-ESS-HB	GridVoltage1	0.1	V
4	16387	2	1#1#J1-ESS-HB	GridCurrent1	0.1	A
5	16388	3	1#1#J1-ESS-HB	GridPower1	1	W
6	16389	4	1#1#J1-ESS-HB	GridVoltage2	0.1	V

2.7.4.2、 Database Storage Settings

The database storage control is the data storage path of inverter. There are two storage paths, the default and the SD card. The default is to store on the datahub, and the SD card is to store on the SD expansion card.

- ① Select the data storage path;
- ② Submit.



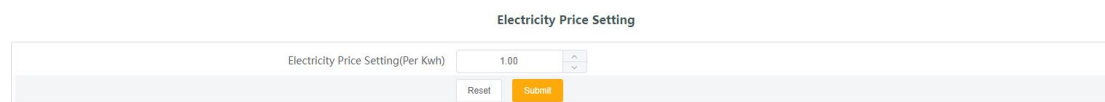
Note: If the database path is stored on SD card:

1. The capacity of SD cannot be less than 512M
2. The SD card cannot be pulled out when the system is running normally (if the SD card is pulled out, it needs to be powered off and then pulled out)

2.7.4.3、 Electricity Price Setting

In the overview interface, there is a benefit & saving display, which displays the cost saved. This setting item is the unit price setting of the electricity price, and the saved revenue is calculated by the electricity price.

- Fill in the unit price of electricity;
- Submit and save.



2.7.4.4、 CO₂ Saving Factor

CO₂ Saving Factor shows the CO₂ reduced by using photovoltaic power generation.

- Fill in the CO₂ emission reduction coefficient settings
- Submit and save

CO₂ Savings Factor

CO₂ Savings Factor

2.7.5、Datahub Info

Datahub Info displays the basic information of datahub, including SN number, firmware version, internal codes, system time, memory usage, free disk time, free SD space and Wi-Fi connection.

If the SD card is not inserted, the remaining space of the SD card refers to the remaining space of the mounting path. If the SD card is inserted, it is the remaining space of the SD card.

Click to download the user manual and permission manual.

DataHub Info

SN	SWYKHBEV72
Firmware Version	3.09
Internal Codes	1.02
System Time	2022-01-14 14:32:14
Memory Usage	20.0%
Free Disk Space	3.4G
Free SD Space	
Wi-Fi Connection	unknown

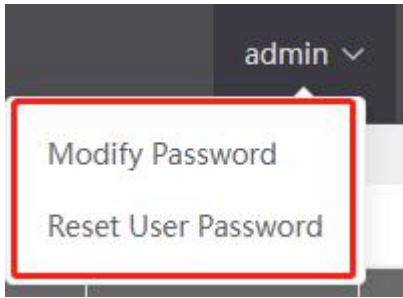
[Download Operation Manual](#)
[Download Permission Manual](#)

2.7.6、Datahub Upgrade

Click to upload and upgrade, select the upgrade file, and wait for the upgrade. (Only one file can be uploaded at a time, and the interface needs to be refreshed for continuous operation)

2.8、Password modification

The system provides two modification methods: Modify Password and Reset User Passwor.



①.①.1、 Modify Password

- ① Enter the old password;
- ② Enter new password, confirm password;
- ③ Click OK to submit.

A screenshot of a 'Modify Password' dialog box. The dialog has a title bar with the text 'Modify Password' and a close button (X) on the right. Below the title bar, there are three input fields, each with a red asterisk indicating a required field. The first field is labeled '* Old Password', the second is '* New Password', and the third is '* Confirm Password'. At the bottom right of the dialog, there are two buttons: a 'Cancel' button and an orange 'OK' button.

2.8.2、 Reset User Passwor

- ① Enter the account whose password you want to reset;
- ② Enter new password;
- ③ Click OK to submit the password.

A screenshot of a 'Reset User Password' dialog box. The dialog has a title bar with the text 'Reset User Password' and a close button (X) on the right. Below the title bar, there are two input fields, each with a red asterisk indicating a required field. The first field is labeled '* Login Account' and the second is '* New Password'. At the bottom right of the dialog, there are two buttons: a 'Cancel' button and an orange 'OK' button.

2.9、 System Reset

System Reset restores the system to factory settings, and restores datahub to the hotspot login method. To switch to the wifi login method, please refer to the introduction of the login function.

Operation: Press and hold the RECOVER button for 10 seconds, ignore the first time that the three LED lights are always on. When all three LEDs are off, you can release it. When the three LED lights are on again, plug in and unplug the datahub power supply to restart the service, then system reset is complete.

Please contact us if you have any further confusions

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