

Manual

Solax Datahub 1000

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.

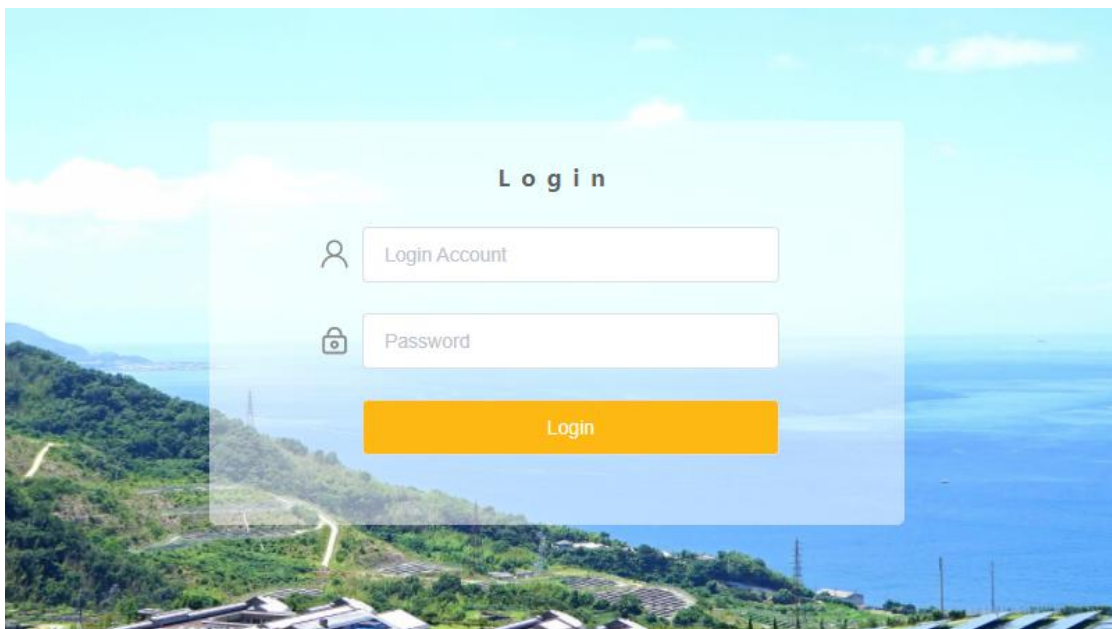
Hotspot login: Connect the computer to the DATA_HUB hotspot, and use computer to access 192.168.1.1 to enter the login interface. (The hotspot mode cannot connect to the external network, and cannot connect to the cloud platform to upload data. It is not recommended to use it. It is recommended to switch 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

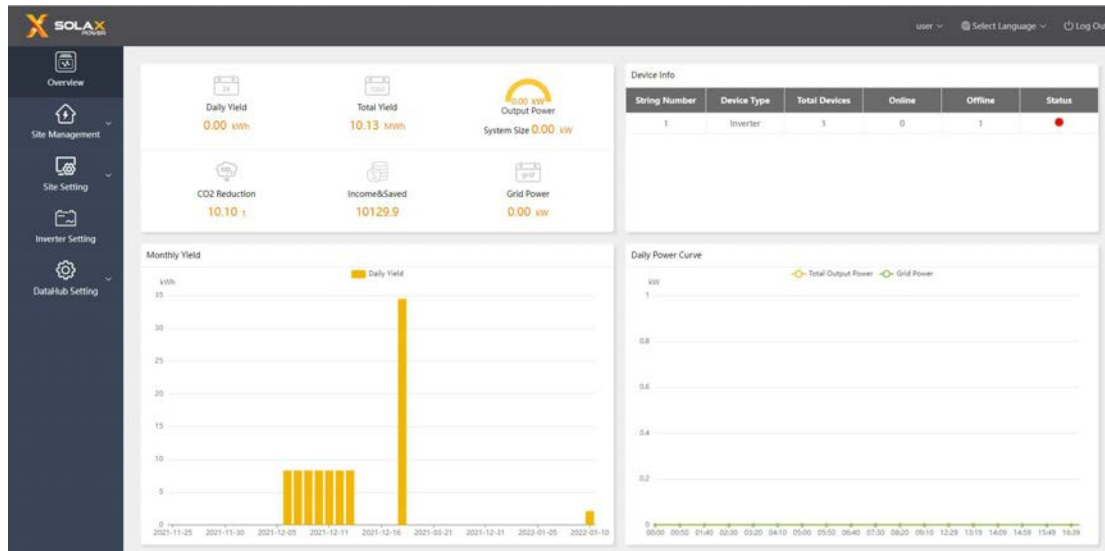
Visitor account: visitor, Password: 123456



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.

Overview

Site Management

Site Setting

Inverter Setting

Datashub Setting

Internet Setting

Time Setting

String Setting

Other Setting

Datashub Info

String Setting

String Number	Agreement Type	Baud Rate	Verification Method	Stop Bit	Device Type
1	modbus	19200	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

4 Save

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;

✖ Device address is already occupied

- 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.)

Overview

Site Management

Add Device

Device Detail

Site Setting

Inverter Setting

Datashub Setting

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

Check Device Detail

4 Save

Device Detail ×

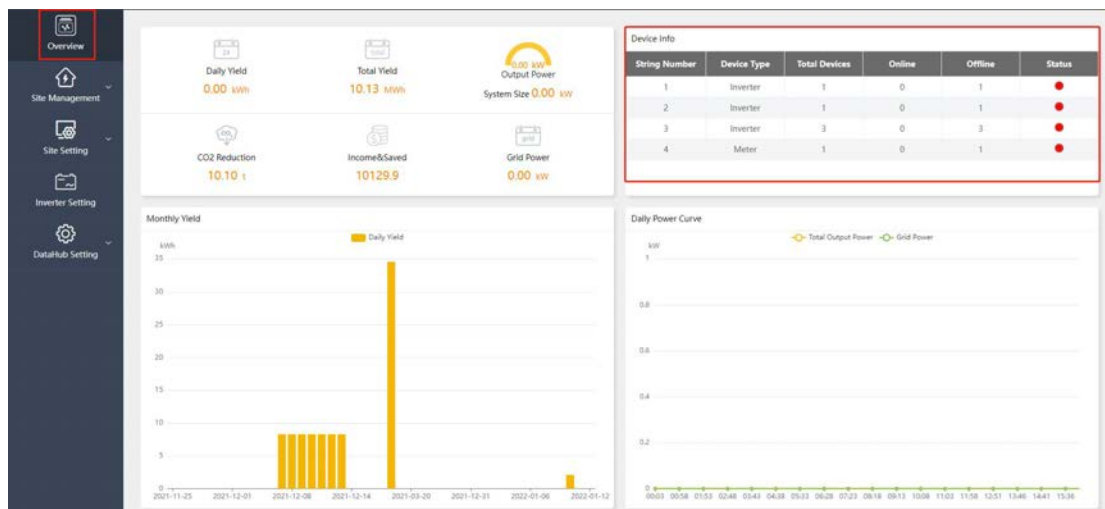
String Number	Device ID	SN	Device Type	Device Type
1	1	unknown	Inverter	unknown ^
2	2	unknown	Inverter	MIC-G2
3	3	unknown	Inverter	J1-ESS-HB
3	4	unknown	Inverter	PRO-G2
3	5	unknown	Inverter	X3-MEGA
3	5	unknown	Inverter	X3-FORTH
4	6	meter-6	Meter	unknown v

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.



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 2

	String Number	Device ID	SN	Device Type	Device Type	Operating Status	Version
	1	1	unknown	Inverter	J1-ESS-HB	unknown	0.00
1	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 ☒ ON

Control Mode

Average Phase Control

* Anti-counterflow Power(W)

1000

Feedin [+] , Consumed [-]

Reset

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.

The screenshot shows the 'Power Control' interface. On the left is a sidebar menu with options: Overview, Site Management, Site Setting, Anti-counterflow Setting, Power Control (highlighted), Meter Reversion, Inverter Setting, Inverter Upgrade, and Databus Setting. The main area displays a table for 'Dry Contact Control' settings. The table has columns for 'D4 D3 D2 D1' (16 combinations of high/low states represented by green and white circles), 'Select' (a dropdown menu), 'Setting' (a dropdown menu), 'Active Power%(0-100)' (a text input field), 'Reactive Power%(0-100)' (a text input field), and 'Reactive Mode' (a dropdown menu). The table is divided into two sections by a horizontal line. The top section is for 'Active Power' control, and the bottom section is for 'Reactive Power' control. The 'Reactive Mode' column has two options: 'OverExcited' and 'UnderExcited'. A 'Submit' button is located at the bottom right of the table.

D4 D3 D2 D1	Select	Setting	Active Power%(0-100)	Reactive Power%(0-100)	Reactive Mode
0000		Please Select	0-100	00-100	Please Select
0001		Please Select	0-100	00-100	Please Select
0010		Please Select	0-100	00-100	Please Select
0011		Please Select	0-100	00-100	Please Select
0100		Please Select	0-100	00-100	Please Select
0101		Please Select	0-100	00-100	Please Select
0110		Please Select	0-100	00-100	Please Select
0111		Please Select	0-100	00-100	Please Select
1000		Please Select	0-100	00-100	Please Select
1001		Please Select	0-100	00-100	Please Select
1010		Please Select	0-100	00-100	Please Select
1011		Please Select	0-100	00-100	Please Select
1100		Please Select	0-100	00-100	Please Select
1101		Please Select	0-100	00-100	Please Select
1110		Please Select	0-100	00-100	Please Select
1111		Please Select	0-100	00-100	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.

☒ Overview
 ☐ Site Management
 ☐ Site Setting
 ☒ Inverter Setting

Serial Port: Type:

String Number	Dev	Device Type	Device Type	Operating Status	Operation Result	Operation content
1	1	Inverter	J1-ESS-HB	unknown		
2	2	Inverter	MIC-G2	unknown		
3	3	unknown	PRO-G2	unknown		

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.

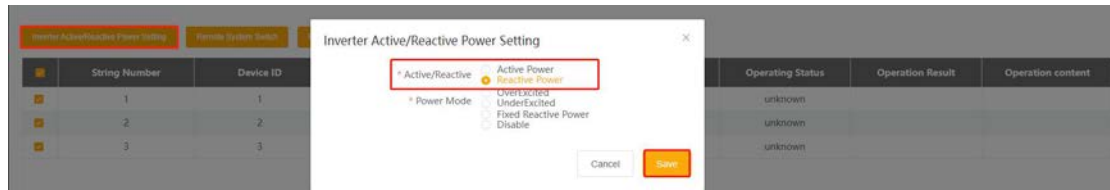
☒ Inverter Active/Reactive Power Setting
 ☐ Remote System Switch

String Number	Device ID	Operating Status	Operation Result	Operation content
1	1	unknown		
2	2	unknown		
3	3	unknown		

Inverter Active/Reactive Power Setting

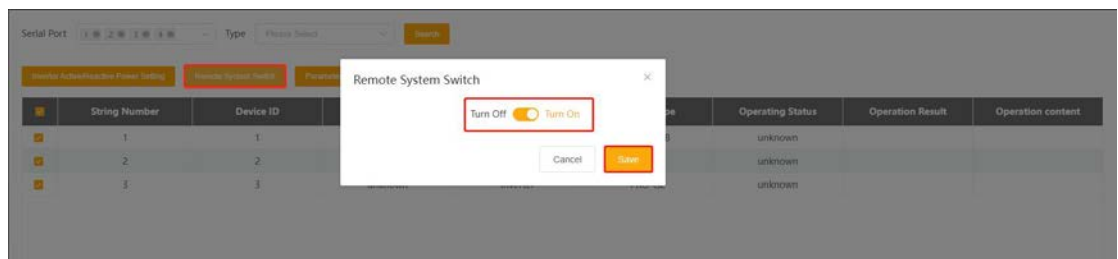
* Active/Reactive: ☒ Active Power ☐ Reactive Power

* Active Power(%)



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;

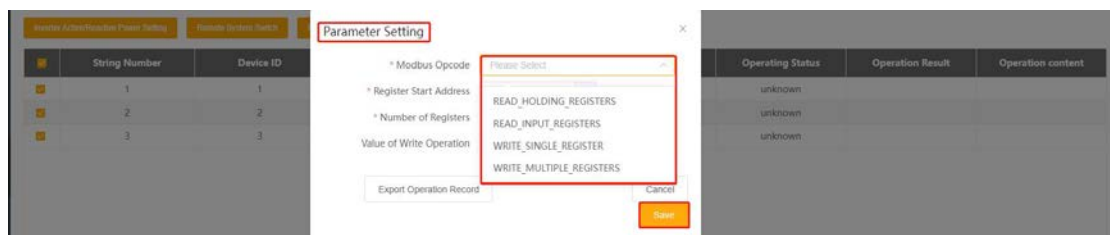
Select the modbus opcode, which is divided into read holding register, read input register, write single register, and write multiple registers;

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;

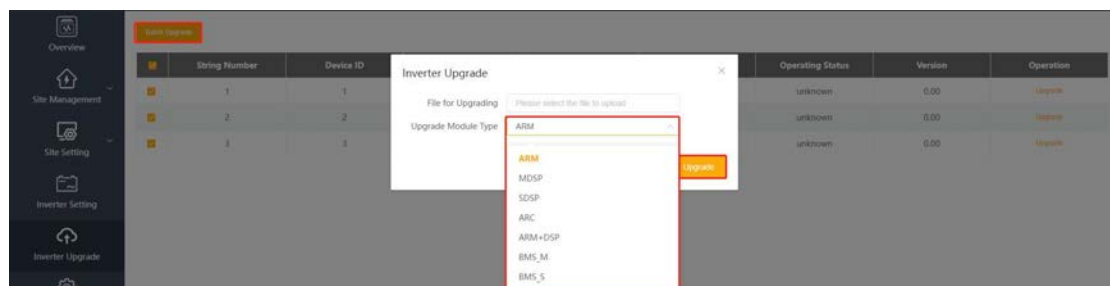
Click to select the updated file;

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)

The screenshot shows a network configuration form with the following fields and callouts:

- 1: NIC Type (Wired NIC)
- 2: DHCP (NO/YES toggle)
- 3: IP Address
- 4: Subnet mask
- 5: Gateway
- 6: DNS
- 7: Submit button

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.

The screenshot shows the 'Time Setting' form with the 'Time Setting Mode' dropdown menu open, displaying the following options:

- Time Synchronization
- Time Synchronization (highlighted)
- SolaXCloud Synchronization
- Other Server Synchronization
- Remote Output Server Synchronization

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.

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.

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.

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.

Database Storage Settings

Database Storage Path

Default

Default

SD Card

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.

Electricity Price Setting

Electricity Price Setting(Per Kwh)

1.00

Reset

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

CO ₂ Savings Factor	0.997	↑	↓
Reset	Submit		

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	SWYKH8BV72
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](#)

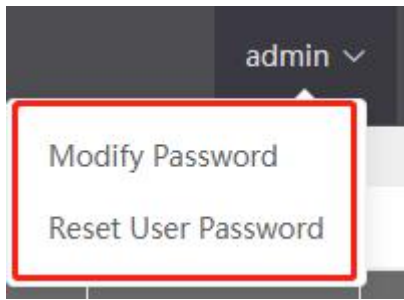
2.7.6、Datahub Upgrade

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)

Click to upload and upgrade

2.8、Password modification

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



①.①.1、 Modify Password

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

Modify Password

* Old Password

* New Password

* Confirm Password

Cancel

OK

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.

Reset User Password

* Login Account

* New Password

Cancel

OK

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

SolaX Power Network Technology (Zhejiang) Co. , Ltd.

No.288, Shizhu Road, Tonglu Economic Development Zone, Tonlu City, Zhejiang Province
310000, CHINA