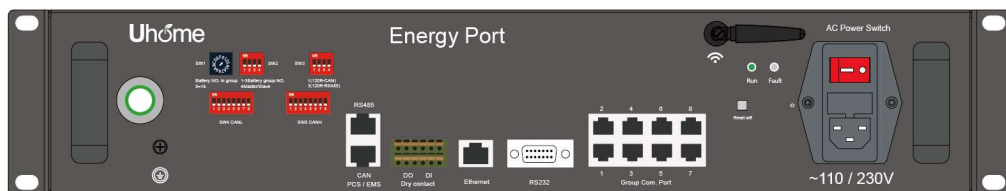




USER MANUAL

Uhome Energy Port

Version: 2.2



Uhome Smart Energy(Wuxi)Co., Ltd.

About this manual

Uhome Energy port is designed to be used to expand the capacity of the power station. It is suitable for both residential power station and small commercial system. It supports CAN/RS485/232/Internet communications.

About Energy Port

Uhome Energy port is designed to be used to expand the capacity of the power station. It is suitable for both residential power station and small commercial system. It supports CAN/RS485/232/Internet communications.

Declaration

Uhome declares that the Uhome Energy Port is compliance with the essential requirements and other relevant of RE Directive 2014/53/EU.

CONTENT

1. Safety Introduction.....	1
1.1 Important Safety Instructions	1
1.2 Warnings in this Document	1
1.3 Energy Port Handling Guide	2
1.4 Response to Emergency Situations.....	2
1.4.1 Inside Batteries Leaking	2
1.4.2 Fire.....	2
1.4.3 Wet Products.....	3
1.4.4 Damaged Products.....	3
1.5 Installers.....	3
1.6 Scrap Battery.....	3
1.7 Contact Information	4
2. Product Introduction	4
2.1 Technical Specifications	4
2.2 Indicator and Ports	5
2.2.1 Indicator	5
2.2.2 Ports and Communication Interface	6
2.3 Energy System Layout.....	7
2.4 Feature	9
3. Installation Prerequisites.....	9
3.1 Installation Process	9
3.2 Installation Position.....	10
3.3 Tools	10
3.4 Safety Instruments.....	11
3.5 Storage	11
4. Products Installation	12
4.1 Package Items.....	12
4.2 Checks before Installation	12
4.3 Cable Connections of the Energy Port.....	12
4.4 Address DIP Switch Setting	16
5. Configuration	17
5.1 APP Download	17
5.2 Configure Battery WIFI	17
6. Commissioning.....	19
6.1 Commissioning.....	19
6.2 Shutting Down.....	20
8. Firmware Update.....	20

1. Safety Introduction

1.1 Important Safety Instructions

This manual contains important instructions for:

UHOME Energy Port and this manual must be followed when installing and using this product.

This product is designed and tested in accordance with international safety requirements international standards, but as with all electrical and electronic equipment, certain precautions must be observed when installing and / or operating the product. To reduce the risk of personal injury and ensure the safe installation and operation of the product, you must read carefully and follow all instructions, cautions and warnings in this manual.

1.2 Warnings in this Document

A warning describes a hazard to equipment or personnel. It calls attention to a procedure or practice which if not correctly performed, could result in damage to or destruction of part or all of the Uhome equipment and/or other equipment connected to the Uhome equipment or personal injury.

Symbol	Description
	Caution, risk of electric shock
	Heavy enough may cause severe injury
	Keep the battery away from open flame or ignition sources
	Keep the battery away from children
	Dispose of waste batteries according to local laws and regulations
	Recycling
	Read this manual before installation and operation

For safety reasons, installers are responsible for familiarizing themselves with the contents of this manual and all warnings before performing installation.

1.3 Energy Port Handling Guide

- Use the energy port pack only as directed.
- If the energy port defective, appears cracked, broken or otherwise damaged, or fails to operate, contact the Uhome **hot line +86-510-8899-8080** immediately.
- Do not attempt to open, disassemble, repair, tamper, or modify the energy port.

The energy port is not suitable for users to use by themselves.

- To protect the energy port and its components from damage when transporting, handle with care.
- Do not subject it to any strong force.
- Do not insert foreign objects into any part of the energy port pack.
- Do not use cleaning solvents to clean the energy port.
- The energy port not be connected directly to SELV circuit.

1.4 Response to Emergency Situations

The Uhome energy port is designed with multiple safety strategies to prevent hazards resulting from failures. However, Uhome cannot guarantee their absolute safety for uncertain situations.

1.4.1 Inside Batteries Leaking

If the battery inside leaks electrolyte, avoid contact with the leaking liquid or gas. Electrolyte is corrosive and contact may cause skin irritation and chemical burns. If one is exposed to the leaked substance, do these actions:

Inhalation: Evacuate the contaminated area, and seek medical attention immediately.

Eyes contact: Rinse eyes with flowing water for 15 minutes, and seek medical attention immediately.

Skin contact: Wash the affected area thoroughly with soap and water, and seek medical attention immediately.

Ingestion: Induce vomiting as soon as possible, and seek medical attention immediately.

1.4.2 Fire

In case of a fire, make sure that an ABC or carbon dioxide extinguisher is

nearby and does not use water to extinguish the fire.



If a fire breaks out where the energy port is installed, do these actions:

1. Extinguish the fire before the energy port catches fire.
2. If the energy port has caught fire, do not try to extinguish the fire. Evacuate people immediately.

1.4.3 Wet Products

If the energy port is wet or submerged in water, do not try to access it. Contact **Uhome Customer Service** or your distributor for technical assistance.

1.4.4 Damaged Products

If the energy port damaged, please contact Uhome **customer service** or your distributor for help as soon as possible. Damaged energy port is not suit for use and may pose a danger to people or property. If the energy port seems to be damaged, return it to Uhome or your distributor.

1.5 Installers

Uhome Energy Storage battery is suggested installing by skilled worker or electrician. A skilled worker is defined as a people who had been trained and qualified electrician or had all of the following skills and experience:

- Knowledge of the functional principles and operation of on-grid Energy Storage systems.
- Knowledge of the dangers and risks associated with installing and using electrical devices and acceptable mitigation methods.
- Knowledge of the installation of electrical devices
- Knowledge of and adherence to this manual and all safety precautions and best practices.

1.6 Scrap Battery

For scrap battery(-ies), please treat with local laws or regulations to recycle or scrap.

1.7 Contact Information

Use the contacts for technical assistance. The phone numbers are available only during business hours on weekdays.

Fax	+86-510-8899-8080
Email	marketing@uhomeenergy.com
Address	No. 1, Qianluo Road, Qianqiao Street, Huishan District, Wuxi City, Jiangsu Province, CHINA

2. Product Introduction

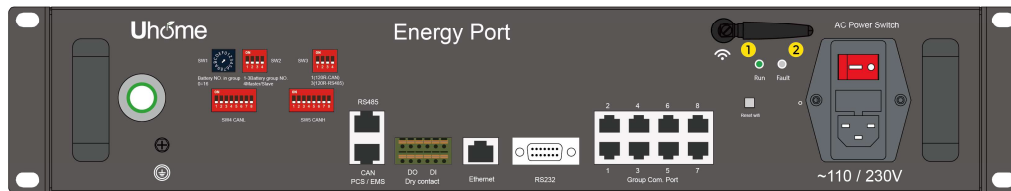
2.1 Technical Specifications

Model	Uhome Energy Port
Power Supply	110/230V or Backup Battery
Nominal Charge/Discharge Power	15W
UPS Rated Capacity	5AH
UPS Rated Charge Current	1A
UPS Rated Discharge Current	2A
UPS Power Supply	10.8V
Com. Interface	CAN/ RS 485/ Internet
Com. Method	Protocol & Baud rate: Depend on Inverter
Protective Mode	Dual hardware protection
UPS temperature	0~45°C
Port Temperature (Working)	-20 ~ 65°C
Port Temperature (Storage)	-30 ~ 70°C
Dimension(L*W*H)	300*442*89 mm
WIFI Frequency Range	2400MHz-2483MHz
IP rating	IP 20
Weight	6kg
Protective Class	I
Max number of parallel	4
Warranty	3 years
Cooling Type	Natural cooling
Case Material	Metal
Color	Black
Installation	Ground Installation
Battery Protection	Over-current/Over-voltage/Short circuit/Under-voltage/Over temperature
Hazardous Material Classification	9

2.2 Indicator and Ports

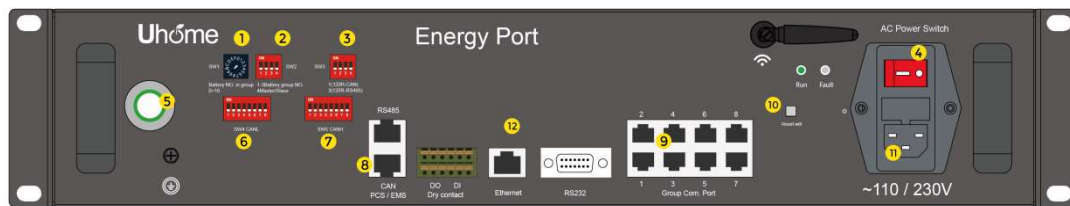
2.2.1 Indicator

There are two LED indicators on the front of the battery to show its operating status.



Item	Designation	Definition
1	Run	Battery working normally
2	Fault	Battery failures

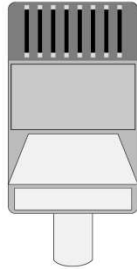
2.2.2 Ports and Communication Interface



NO.	Designation	Definition
1	SW1 Battery NO.in group 0=16	Select according to number of battery in one group
2	SW2 1-3 Battery group NO. 4Master/Slave	1-3 Select according to number of battery group 4 Energy port parallel
3	SW3 CAN/RS485 Switch	CAN set: 1&2 UP RS 485 set: 3&4 UP
4	AC Power Switch	AC Power On/Off
5	Power Button	Energy Power system On/Off
6	SW4 CAN Low Switch	CAN Low Communication setting(Depends on inverter setting)
7	SW5 CAN High Switch	CAN High Communication setting(Depends on inverter setting)
8	CAN PCS/EMS Ports	Communication port to the inverter Top Port for 'RS485' Bottom Port for 'CAN'
9	Group Com. Port	Connect multiple batteries group One port for one battery group
10	Reset Wi-Fi Button	Reset Wi-Fi for mobile app connection
11	AC Power Socket	AC Power cable connection
12	Ethernet	External internet port

RJ45 Terminal Configuration of Energy port

Pin 1 2 3 4 5 6 7 8

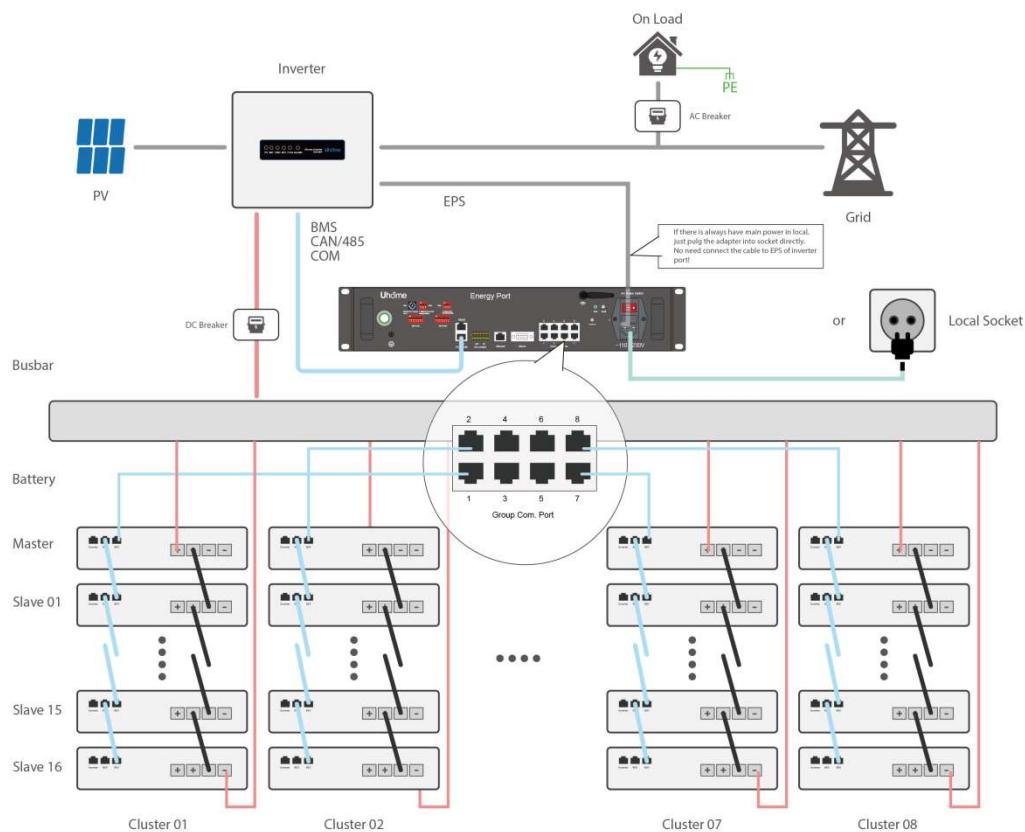


PIN	1	2	3	4
Function Description	485-A	485-B	NC	CAN-H

PIN	5	6	7	8
Function Description	CAN-L	NC	NC	NC

If needed, the network cable should be made like the diagram above. But the network cable between battery and energy port should be made following the definition of Inverter. If available, use a LAN cable tester to check whether the cable is faulty.

2.3 Energy System Layout



2.4 Feature

The Uhome Energy Port has following features:

Uhome Energy port can be used to expand the capacity of the power station. Not only it can be used for surface power station, but also industry power station.

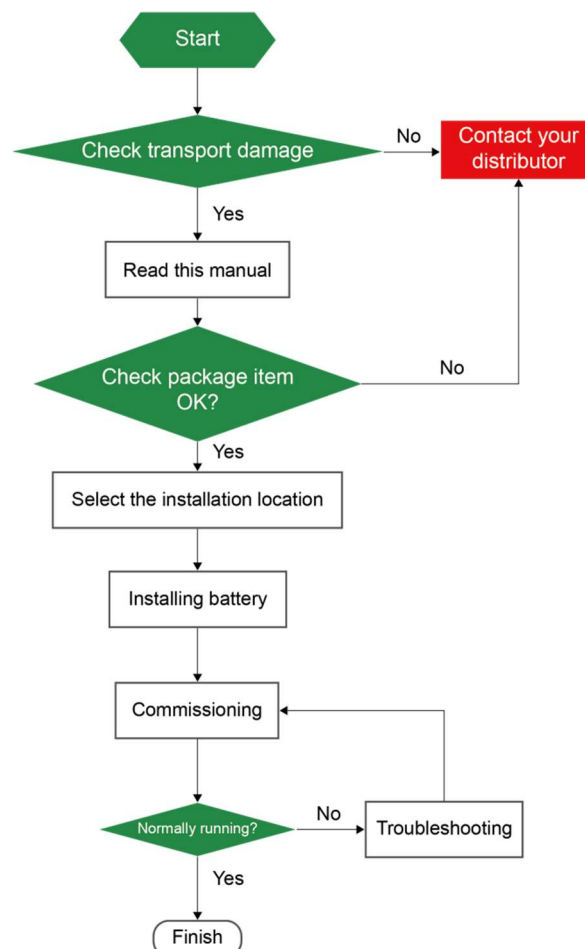
- Support up to 16 single battery connect in series/parallel.
- Support up to 8 cluster battery connect in parallel.

Uhome energy port needs to be connected to the inverter and the battery. It cannot be only connected to the inverter.

3. Installation Prerequisites

3.1 Installation Process

The battery should be installed according to the following flow chart. The detail installation process described in chapter **5 Install process**.



3.2 Installation Position

Make sure that the installation position meets the following conditions:

- The building is designed to withstand earthquakes.
- Far away from the sea to avoid salt water and humidity.
- The floor is flat and level.
- No flammable or explosive materials nearby.
- Optimal ambient temperature is between 15°C and 30°C.
- Temperature and humidity stays at a constant level.
- Minimal dust and dirt in the area.
- No corrosive gases present, including ammonia and acid vapor.

If the ambient temperature is out of the operating range, battery will protect itself by shutting down. The battery optimal operate temperature is 15°C to 30°C. Frequent exposure to severe operating condition would exacerbate the performance and lifetime of the battery.

3.3 Tools

To install the battery pack, those following tools are required:

			
Phillips screwdriver	Torque wrench	Cable crimper	Wire clamp
			
Voltmeter	Tape measure	Drill	Flat-head screwdriver

In order to protect operator and installer's safety, please select and use suitable tools and measuring instruments that are certified for precision and accuracy.

3.4 Safety Instruments

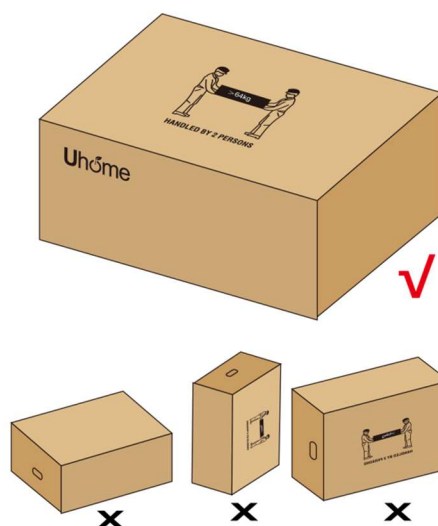
When dealing with the battery, following safety gears should be equipped. Installers must meet the relevant requirements of IEC 62040 and IEC 62619 or the domestic legislation and other relevant international standards.

		
Insulated glove	Safety goggles	Safety shoes

3.5 Storage

If the energy port is not to be installed immediately, and needs to be stored for a long period, please choose an appropriate location to store it. Instructions for storage are:

- The temperature of battery stored recommended in the range of -20°C to 30°C.
- Do not expose to water
- The energy port box should be upright as shown in the following figure and not stacked upside down when storing the energy port box.



4. Products Installation

4.1 Package Items

You can receive one packing cartons about the batteries, all items are summarized as follow:

(Product accessories are customized according to customer needs.)

		
Energy port*1	User Manual*1	Power Supply *1

4.2 Checks before Installation

There are few things to check before installing the battery to ensure that it has no defects.

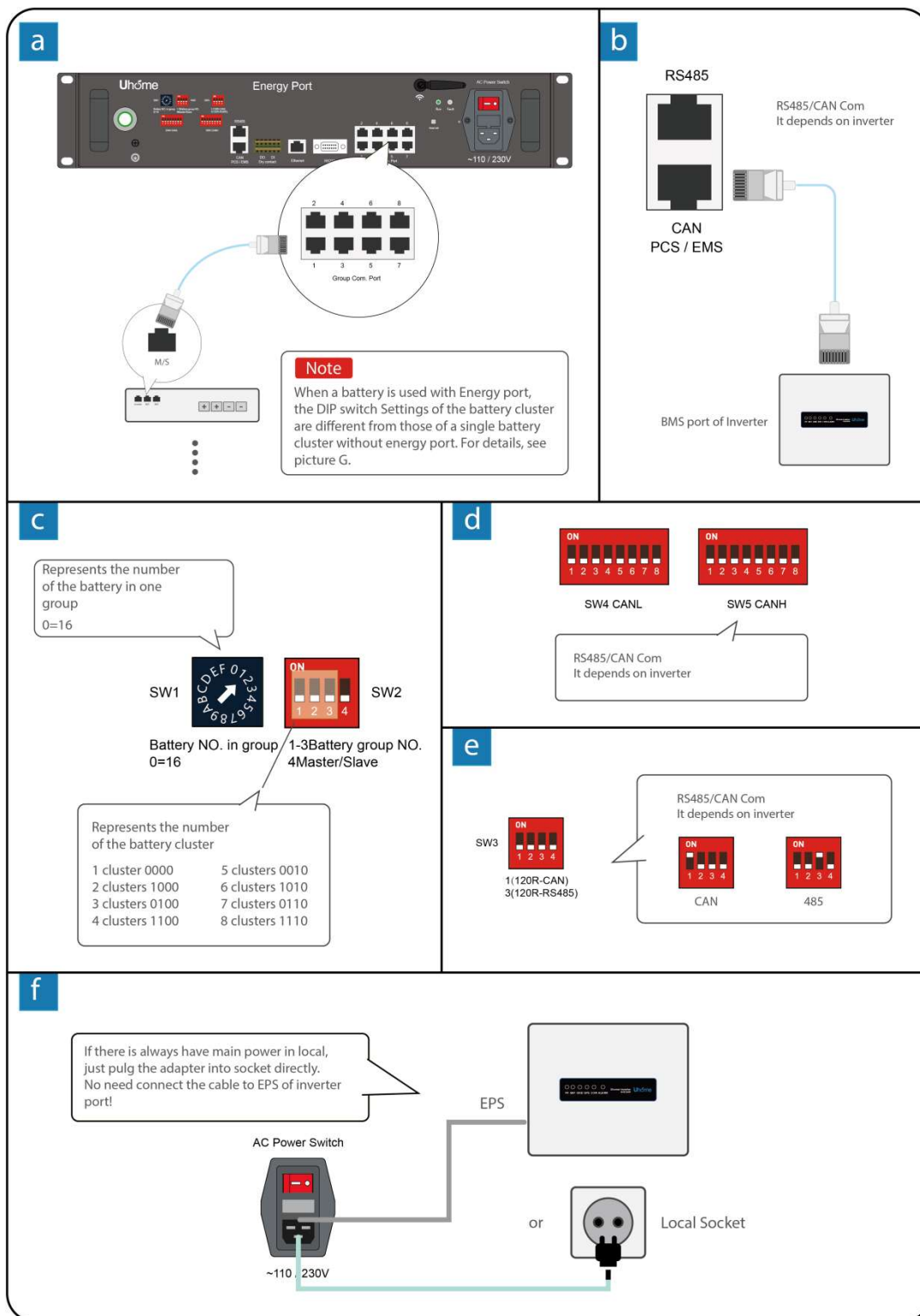
- There is no damage to the external appearance of the product.
- Fix the energy port to the installed location to prevent it from moving.

4.3 Cable Connections of the Energy Port

WARNING

Connect cables in accordance with local installation laws and regulations. Before connecting cables, ensure that the battery is **OFF**. Otherwise, the high voltage of the battery may result in electric shocks.

1. Connect **PCS/EMS port** to the inverter with communication cables.
2. Connect **Group Com Port** to the primary batteries **M/S ports** with communication cables.
3. Set the **SW1/2** according to your battery number in one cluster and battery cluster number.
4. Set the **SW3** according to inverter communication protocol
5. Set the **SW4/5** according to inverter communication protocol.
6. Connect the AC power cable with adapter.
7. Turn on the batteries DC breaker inverter and energy port in order.

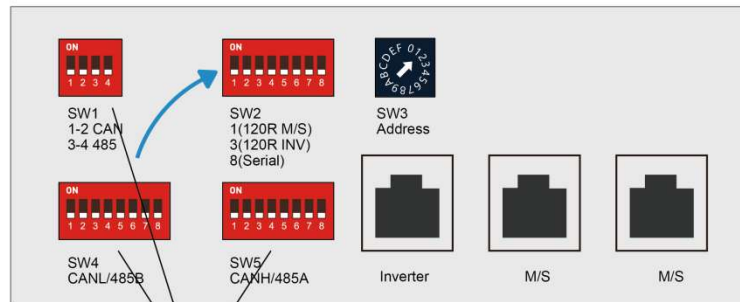


Notice

Uhome products have relay series and MOS series. The DIP setting of SW2 on the battery is showing as below:

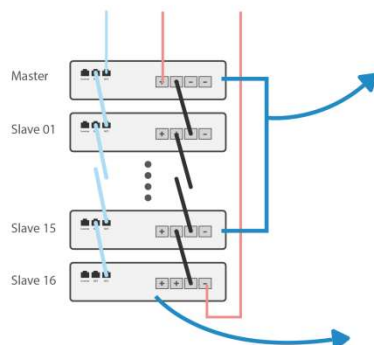
G-1

A: Relay solution board of battery



Same as energy port

Battery cluster



Series connection



SW2
1(120R M/S)
3(120R INV)
8(Serial)

Parallel connection



SW2
1(120R M/S)
3(120R INV)
8(Serial)

Series connection



SW2
1(120R M/S)
3(120R INV)
8(Serial)

Parallel connection

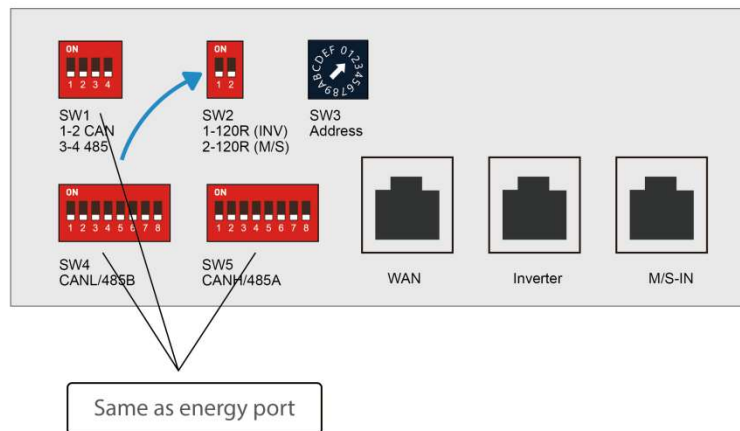


SW2
1(120R M/S)
3(120R INV)
8(Serial)

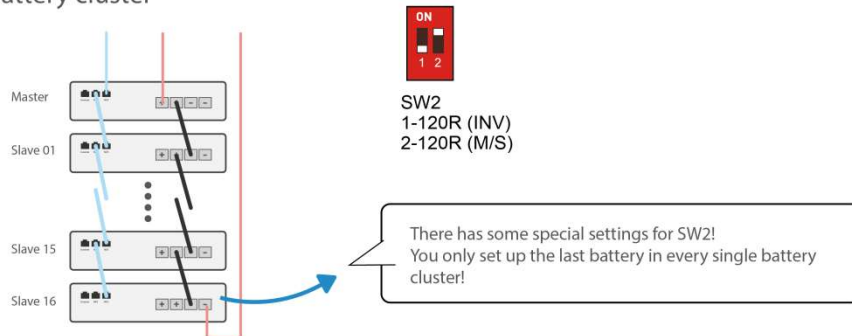
There has some special settings for SW2!
You only set up the last battery in every single battery cluster!

G-2

B: MOS solution board of battery



Battery cluster



4.4 Address DIP Switch Setting

The SW1/SW2 setting is according to the below definition

SW2		Definition
4 only represent the energy port parallel		Master
		Slave
SW2		Cluster NO.
1 2 3 only represent the number of battery cluster		1
		2
		3
		4
		5
		6
		7

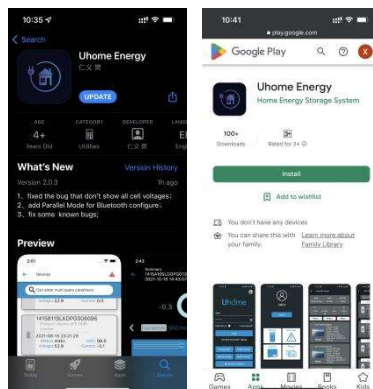
		8
--	---	---

5. Configuration

NOTICE
There are two ways to configure WIFI, choose one of them according to your needs
DIP switch should be set correctly.

5.1 APP Download

Search for the **Uhome Energy APP** in the Google or Appstore and download.

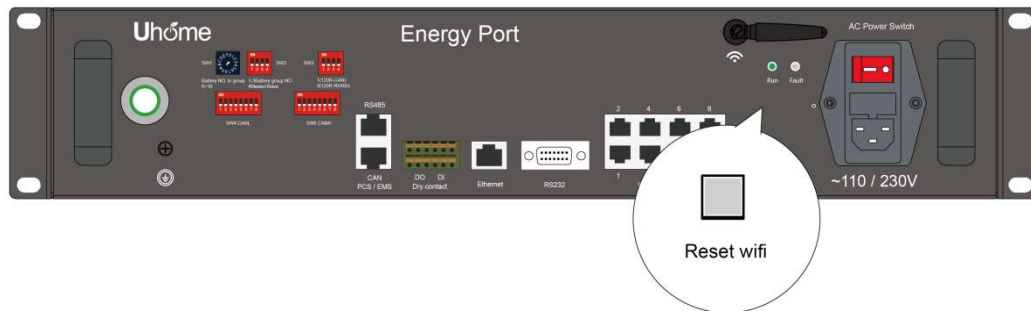


5.2 Configure Battery WIFI

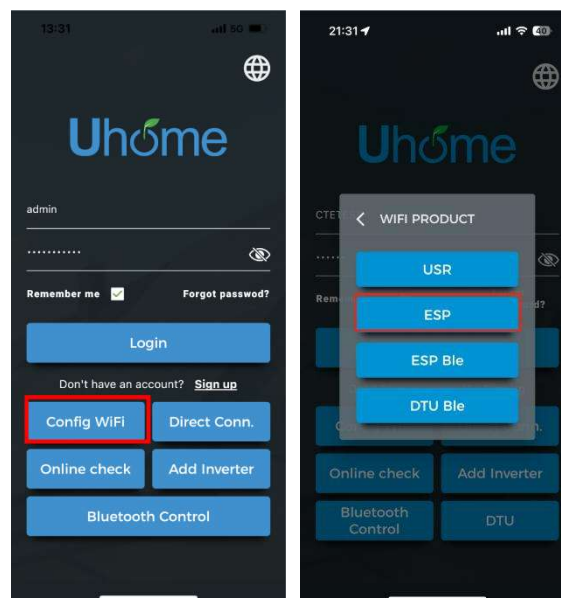
The battery has a built-in WIFI module for use with the App.



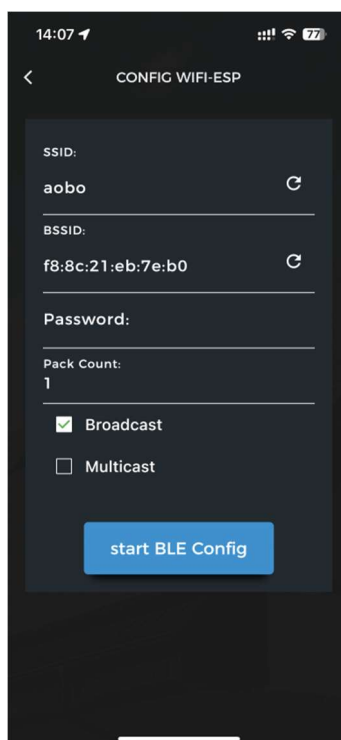
1. Turn on the energy port, press and hold reset for 3 seconds.



2. Select 'Config WIFI', and select 'ESP'.



3. Enter the local wifi password, select **Broadcast** then press **Start Smart Config.**(If the broadcast doesn't work, replace it with multicast.)



NOTICE

Make sure the WIFI connected is 2.4GHz, if not, that is not work.

NOTICE

If the WIFI cannot be set or there is no WLAN accessible, the battery can still operate normally.

6.Commissioning

6.1 Commissioning

1. Plug 220V power cable into the AC power socket. (An UPS battery is built inside the energy port which can continuous power supply 2 hour if no power is available nearby.)
2. Press and hold the panel button on the left side of the unit for 4s, after the indicator lights on, release the panel button.
3. Make sure that the Run light is on. If it stays off, do not use the energy port and contact Uhome or your distributor.
4. Turn on the battery and wait for the start-up sequence to complete fully.

6.2 Shutting Down

Shut down the energy port only when the battery is no charging or discharging which can be seen in your phone with APP.

1. Press and hold the Panel Button for 5s, release after whole lights are off.
2. Make sure all lights on the energy port are off

8.Firmware Update

If you need to upgrade the BMS software version, please contact the after-sales staff by email: marketing@uhomeenergy.com.



Uhome Smart Energy(Wuxi)Co., Ltd.

Tel: +86-510-88998080

Address: No. 1, Qianluo Road, Qianqiao Street, Huishan District, Wuxi City,
Jiangsu Province, PEOPLE'S REPUBLIC OF CHINA

