

● NOTE

Before installation please read users manual for more safety precautions

YiLiNK



○ MENU
○ ENTER
○ DOWN
○ ESC

iPower Powerwall Battery & Deye Inverter Installation Quick Guid

Version 1.0



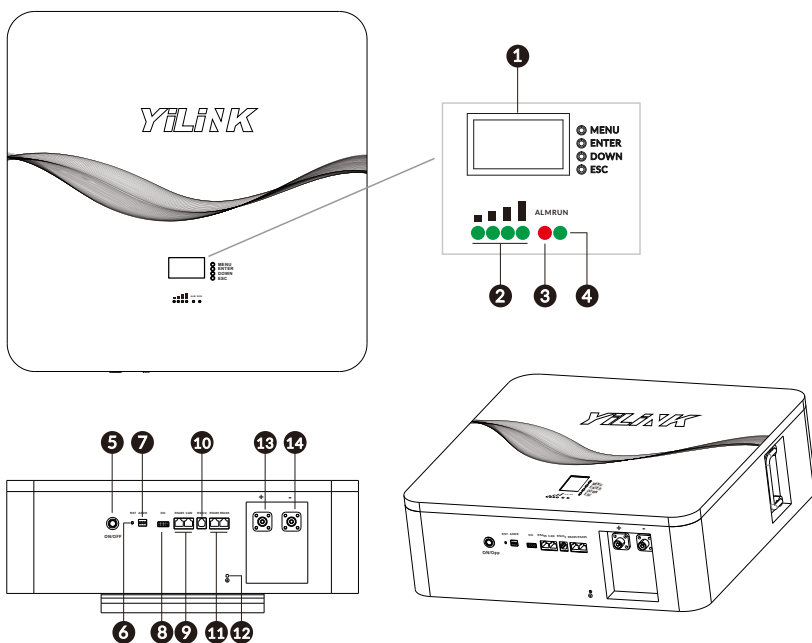
1.PRODUCT OVERVIEW

1.1 Brief Introduction

iPower series LiFePO₄ battery is specially tailored for energy storage system, it offers a greater efficiency, higher reliability, intelligent battery management system, intelligent battery monitoring system, long lifespan to your solar energy backup.

iPower series LiFePO₄ battery is ideal for off-grid and hybrid applications, offering a solution that's built for the long run and has the ability to be deployed and used in a variety of scenarios, for instance, residential, farm, factory, data room, holiday hotel, etc.

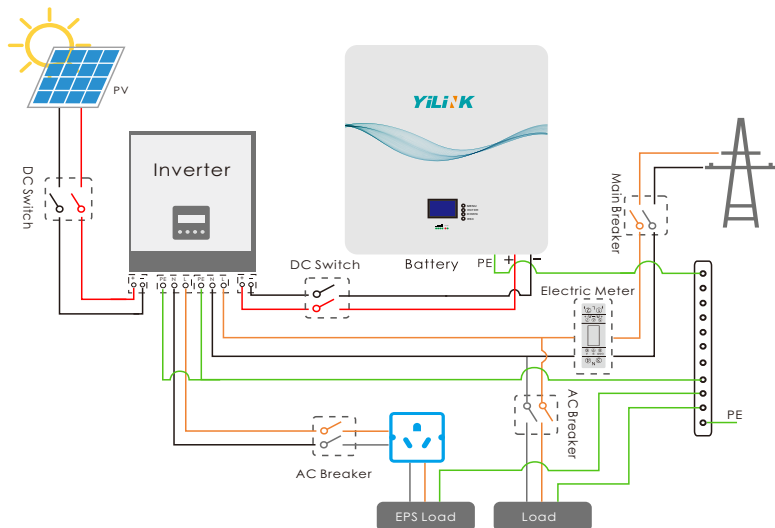
1.2 Battery Overview



1. Display screen
2. Capacity indicator
3. Alarm indicator
4. Status indicator
5. Power switch
6. Reset key
7. ADS dialer
8. Dry contact
9. BMS CAN&RS485 communication port
10. RS232 PC monitoring communication port
11. RS485 battery parallel communication port
12. Ground port
13. Battery "+"
14. Battery "-"

1.3 System Connection Diagram

Solar photovoltaic system generally consists of the PV module, YILINK LiFePO₄ powerwall battery, inverter, management system, AC switch, and power distribution box (PDB).



2. BATTERY INSTALLATION

2.1 Installation Requirements

Installation Environment

- ▶ Working temperature: $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$.
Charging temperature range is $0^{\circ}\text{C} \sim +55^{\circ}\text{C}$;
Discharging temperature range is $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$
- ▶ Storage temperature: $-10^{\circ}\text{C} \sim +45^{\circ}\text{C}$.
- ▶ Relative humidity: 5% ~ 85%RH.
- ▶ Elevation: no more than 4000m.
- ▶ Operating environment: no conductive dust and corrosive gas sites.
- ▶ Installation location should be away from the sea to avoid brine and high humidity environment.
- ▶ The ground is flat and level.
- ▶ There is no flammable explosive near to the installation places.
- ▶ The optimal ambient temperature is $15^{\circ}\text{C} \sim 35^{\circ}\text{C}$.
- ▶ Keep away from dust and messy zones.

NOTICE

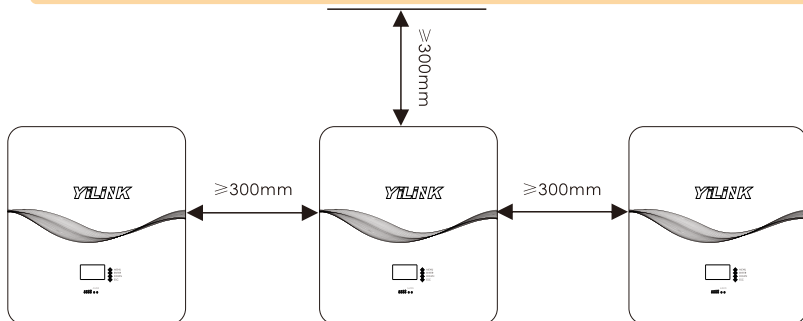
If the ambient temperature is out of the operating range, it will trigger the battery temperature protection function to turn off working. The optimal temperature range for the battery pack to operate is 15°C to 35°C . Frequent exposure to harsh temperatures may deteriorate the performance and life of the battery pack.

Installation Space

Clearance Requirements: To ensure battery working normally and easy to operate, there are requirements on available spaces of the battery, e.g. to keep enough gap. Refer to below figure:

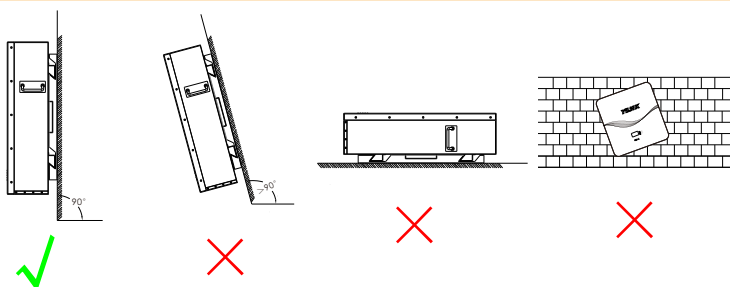
⚠ WARNING

Please install the battery out of the reach of children.



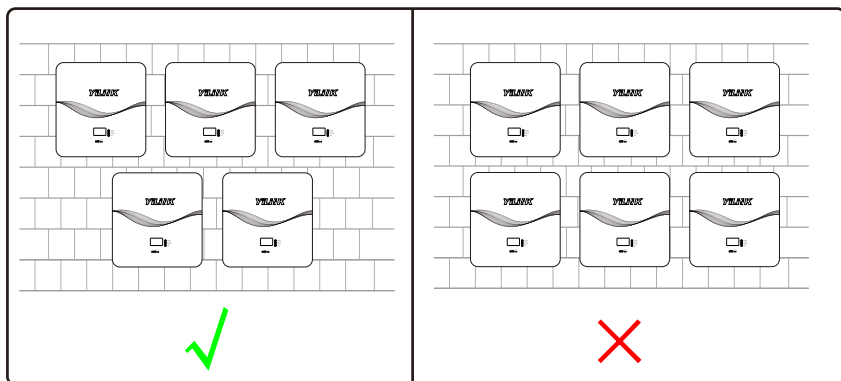
● NOTE

The battery should be installed vertically on the wall. Please refer to below figure:



● NOTE

When multiple install the batteries in one location, to optimize the installation and increase performance and safety of system, it's recommended to always follow below instructions when install batteries. Refer to below figure:



2.2 Wall Mounted Installation

Install The Wall-mounting Bracket

⚠ WARNING

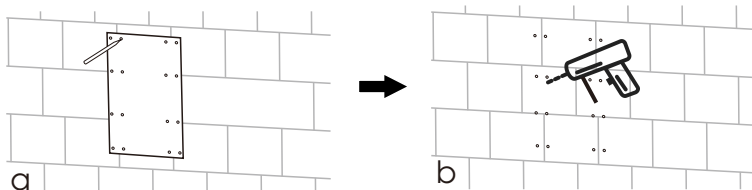
In order to prevent any electric shocks or other injuries, please make sure there are no electricity, plumbing or gas pipeline in the wall where selected to drilling holes for installation.

⚠ CAUTION

Please make sure the wall thickness is over 80mm.

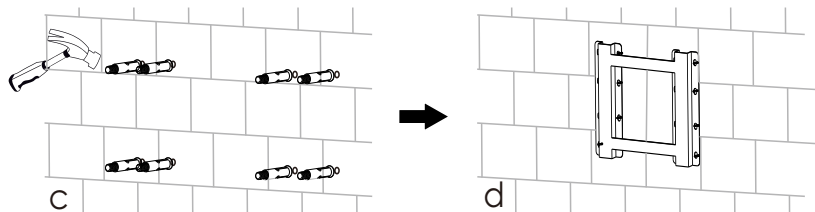
a) Use the positioning board provided with the goods to draw the opening position of the screw with a marker on the wall.

b) 16 holes with diameter of 10mm shall be opened on the wall with electric drill according to the marked position, and the hole depth shall be greater than 50mm to fit the expansion bolts of M8.



c) Use a hammer to fix the expansion bolt M8 in the hole on the wall.

d) The bracket is fixed on the wall with M8 bolts, and then the nuts are tightened to control the torque of 10N.M.

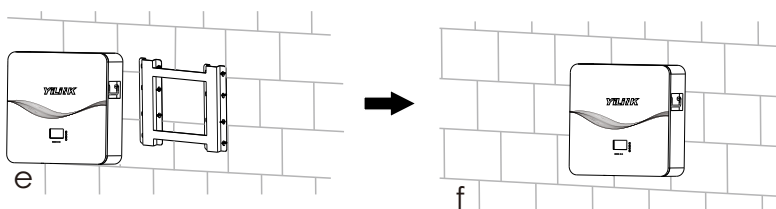


Install The Battery

● NOTE

We recommend using the manual lift to install the battery due to the battery weight.

Raise the battery a little higher than the mounting frame while maintaining the balance of the battery. Hang the battery on the frame through the match hooks.



3.ELECTRICAL CONNECTION

3.1 Electrical Connection Of The Battery

⚠ CAUTION

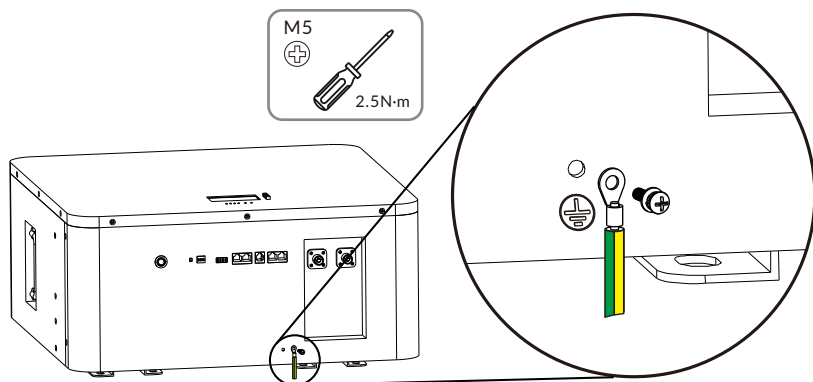
Before connecting cables, ensure that the DC switch on the battery and all the switches connected to the battery are set to OFF. Otherwise, the high voltage of the battery may result in electric shocks.

● NOTE

Connect cables in accordance with local installation laws and regulations.

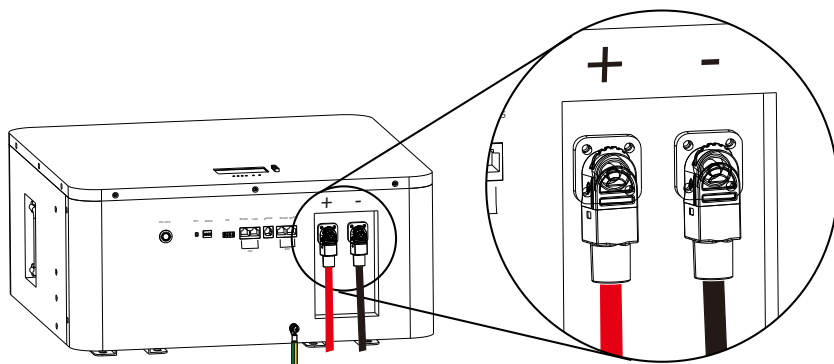
Install Ground Cable

Ground cable shall be connected to ground plate on grid side this prevents electric shock. if the original protective conductor fails.



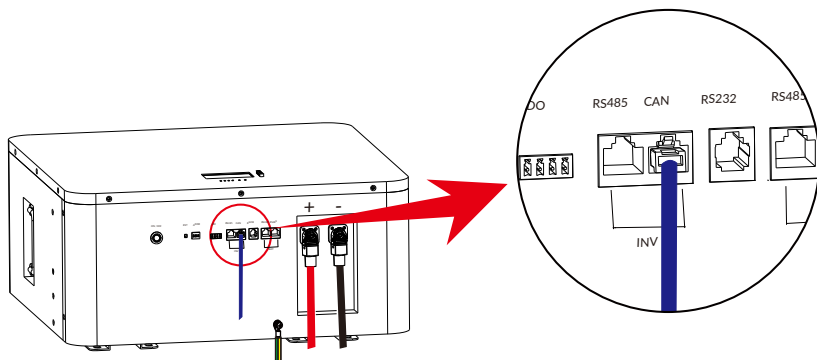
Install DC Connectors

Make sure polarity at both the battery connectors is correctly connected, The red cable is connected to the positive(+) and the black cable is connected to the negative(-).



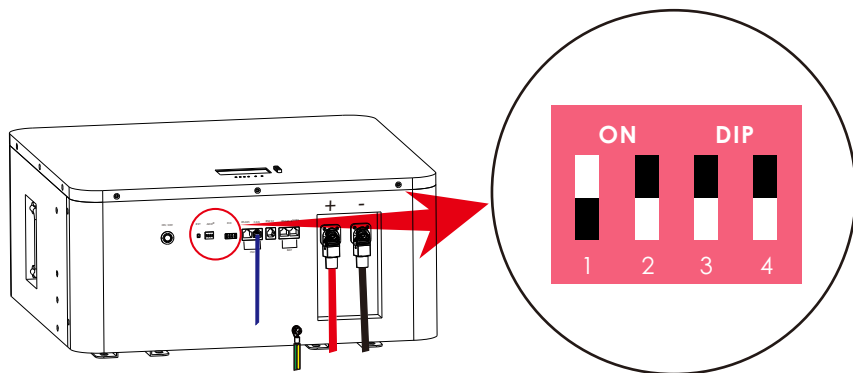
Install The Battery Port Communication Cable

Connect the CAN port of the battery with the communication cable delivered with the battery, Please check APPENDIX 1 for pin definition of communication cable.



Dial DIP Switch

Make sure master battery is dialed as below method, Operate the component identified by "ADDR", and dial the number 1 upward, In parallel, please check APPENDIX 2 for all battery dial addresses.



3.2 Electrical Connection Of The Inverter

⚠ WARNING

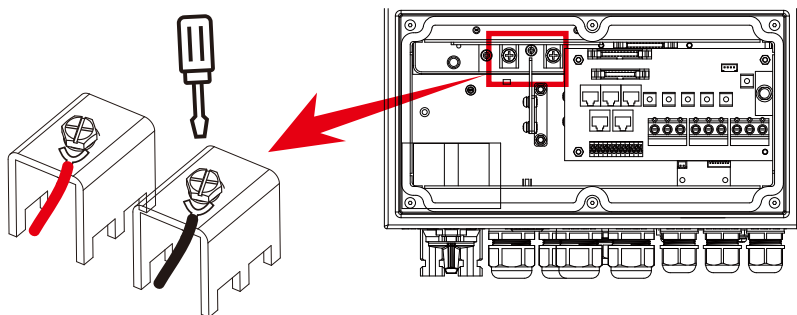
Installation must be performed with care due to high battery voltage in series.

⚠ CAUTION

- Do not apply anti-oxidant substance on the terminals before terminals are connected tightly.
- DC breaker/disconnector, be sure positive(+) must be connected to positive(+) and negative (-) must be connected to negative(-).

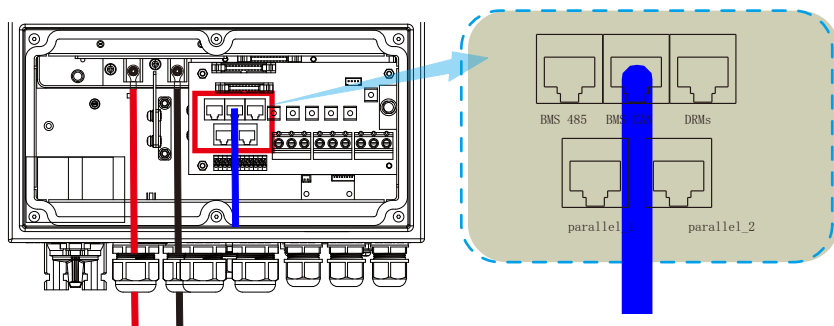
Connecting Cables To The Inverter

Insert the ring terminal of battery cable flatly into battery connector of inverter and make sure the bolts are tightened with torque of 5.2N·m. Make sure polarity at both the battery and the inverter / charge is correctly connected and ring terminals are tightly screwed to the battery terminals.



Install The Inverter Port Communication Cable

Connect the end of RJ45 of battery to BMS CAN communication port of inverter.

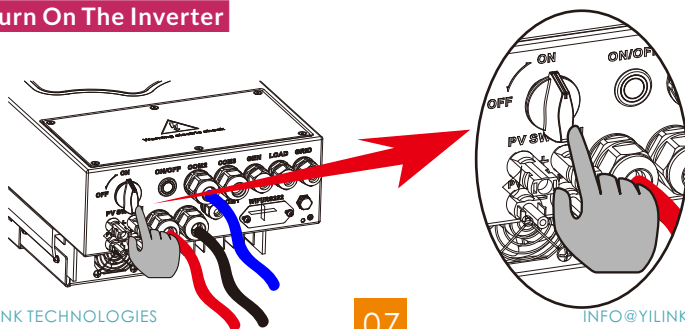


3.3 System Connection

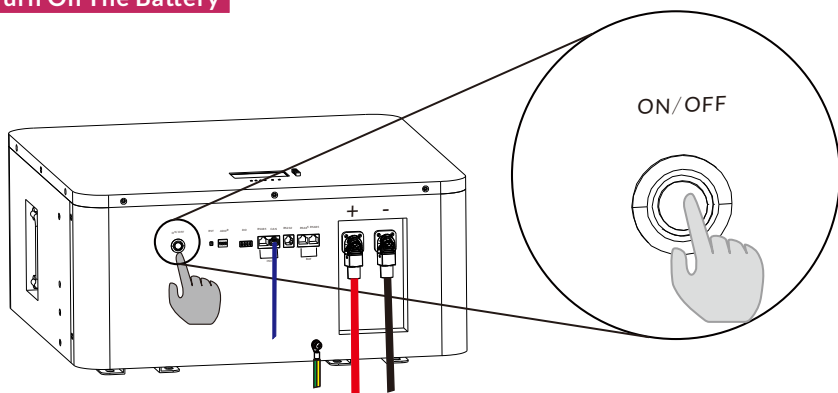
CAUTION

Reconfirm that all cables are connected correctly.

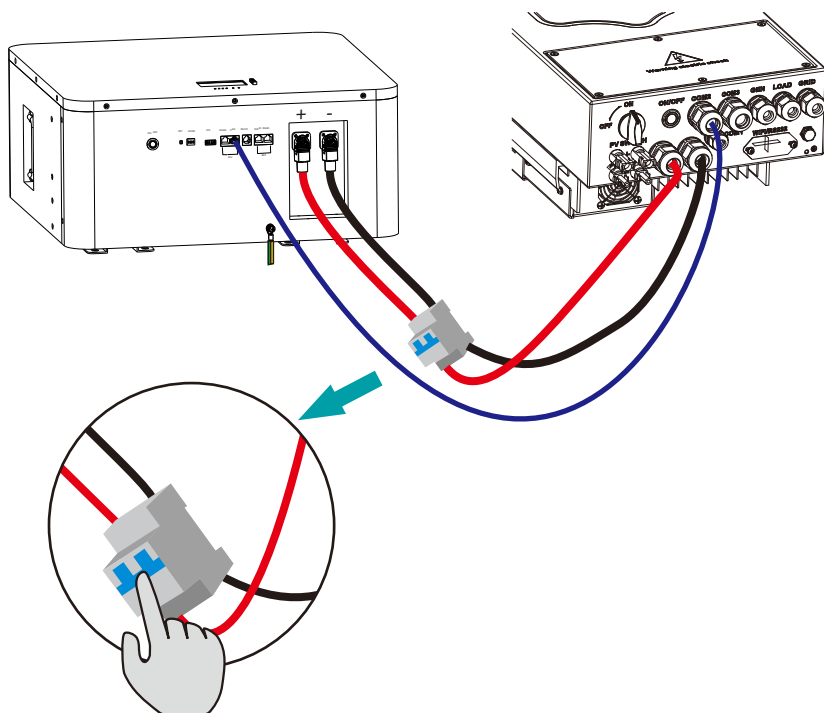
Turn On The Inverter



Turn On The Battery



Power on DC breaker between battery and inverter



NOTE

Please see the schematic diagram of multiple battery parallel cable connection in Appendix 3.

4.INVERTER SETUP

4.1 Brief Introduction

Turn on the inverter enter the main interface,the unit will enter setting mode.Press"UP" or "DOWN" button to select setting programs. And then press"ENTER" button to confirm the selection or "ESC" Button to exit.

4.2 Battery Setting

Step 1 : After entering the main interface, manually click the setting icon in the upper right corner to enter the system setup interface.

Step 2 : After entering the system setup interface, manually click battery setting to enter the battery setting interface.

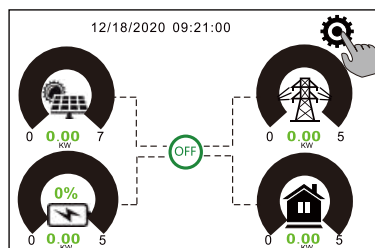
Step 3 :After entering the battery setting interface, the battery mode is selected as lithium, and the corresponding input battery capacity, maximum charging current and maximum discharge current,and then manually click the down arrow.

Step 4 : Enter the battery setting 2 interface, tick and enter the value according to the actual situation,then manually click the down arrow.

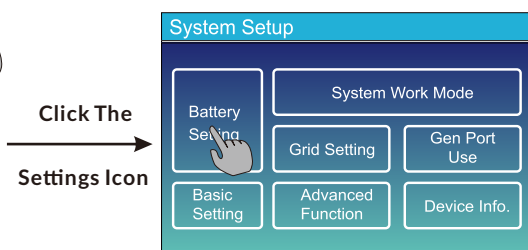
Step 5 : Enter the battery setting 3 interface, input 00 for lithium mode, and other options are based on the actual input value, Then manually click the tick icon in the lower right corner to save.

Step 6 : Press the "ESC" button to return to the main interface, you can check the SOC of the battery in the lower left corner, the system is on, and manually click the battery icon to view the battery information.

Step 7 : Manually click Li-BMS in the lower right corner to enter the Li-BMS interface and check the battery information monitored by BMS.



Step 1



Step 2

Battery Setting

Start	15%	15%
A	50A	50A
<input type="checkbox"/> Gen Charge	<input checked="" type="checkbox"/> Grid Charge	
<input type="checkbox"/> Gen Signal	<input checked="" type="checkbox"/> Grid Signal	
Gen Max Run Time	24.0 hours	
Gen Down Time	0.5 hours	

↑

↓

✕

✓

Batt Set2

Step 4

Click The
Down Arrow

Battery Setting

Lithium Mode	00
Shutdown	10%
Low Batt	20%
Restart	40%

↑

↓

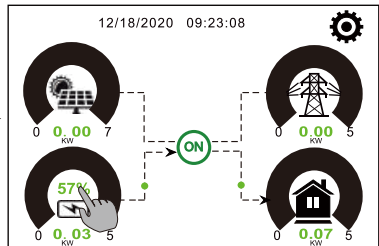
✕

✓

Batt Set3

Step 5

Click
Tick To Save



Step 6

Click The
Battery Icon

Li-BMS

LiBms:01

Battery Voltage: 49.45V
Battery Current: -1A Battery Charging Voltage: 54.0V
Battery Temp.: 25.5C Charge Current limit: 105A
SOC=57% SOH=100% Discharging Current limit: 105A
Alarms: 0x0000 0x0000

Click "Li-BMS"

Batt

Discharge
SOC: 57%
U: 48.75V
I: 0.47A
Power: 22W
Temp: 25.5C

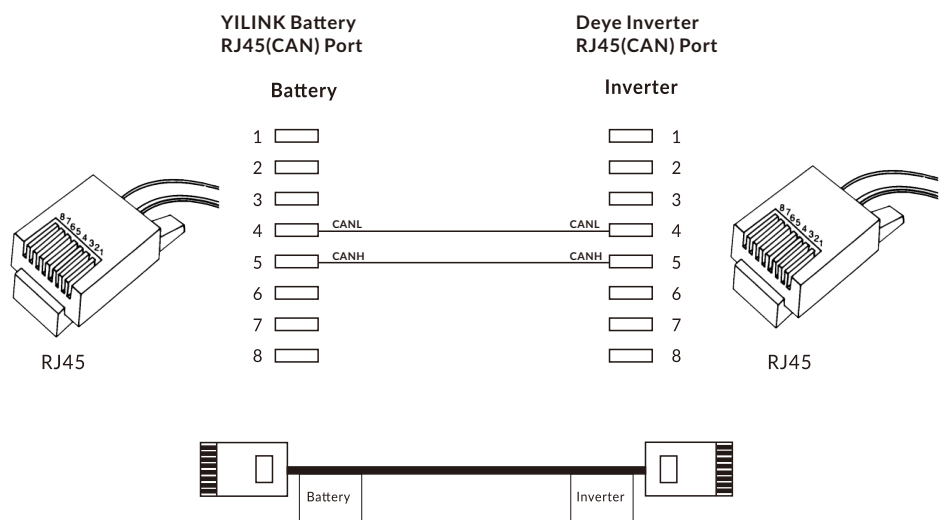
Li-BMS

Step 7

5.APPENDIX

5.1 Appendix 1

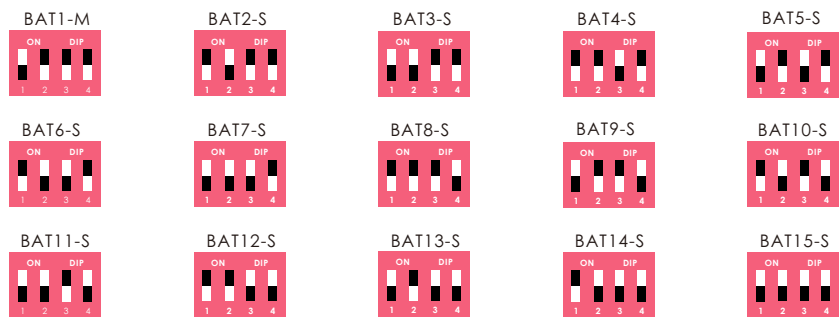
Pin Definition Of Battery And Inverter Communication Cable



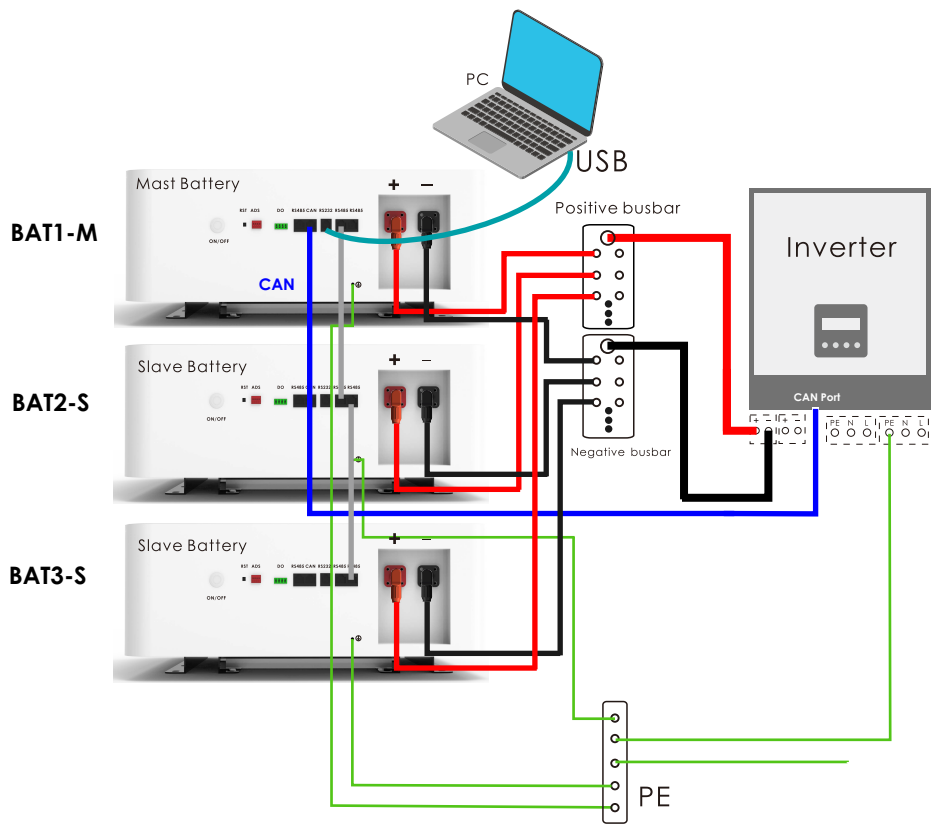
5.2 Appendix 2

All Batteries Dial Addresses In Parallel

While in parallel communication, the dial-up addresses of battery module are 1,2,3,4.....14,15, where 1 stands for the main engine, the data of other batteries are uploaded to the main engine conducts unified uploading.The host computer with dial-up code of 1 to connect with upper computer.

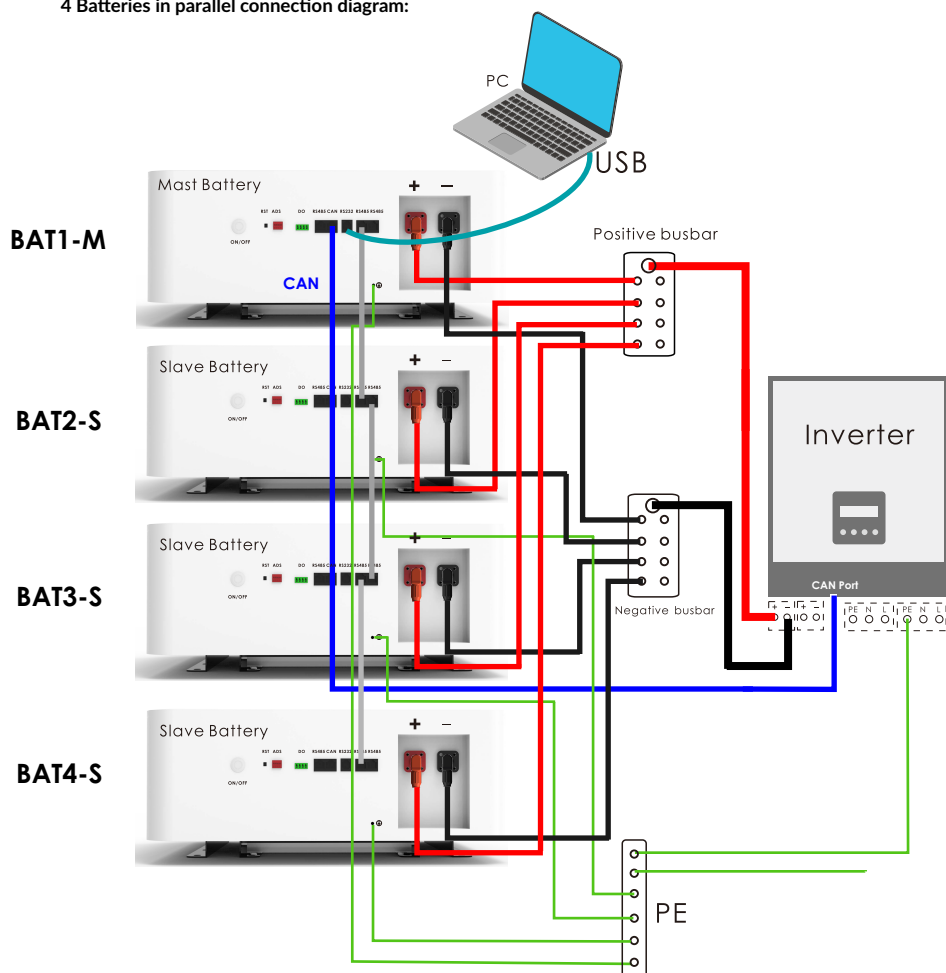


3 Batteries in parallel connection diagram:







The Dial-up Addresses Of Battery Module		
Battery No.	Dial-up Addresses	Description
1	<div>BAT1-M</div> <div><div>ON</div><div>OFF</div><div>1</div><div>2</div><div>3</div><div>4</div></div>	Mast Battery
2	<div>BAT2-S</div> <div><div>ON</div><div>OFF</div><div>1</div><div>2</div><div>3</div><div>4</div></div>	Slave Battery
3	<div>BAT3-S</div> <div><div>ON</div><div>OFF</div><div>1</div><div>2</div><div>3</div><div>4</div></div>	Slave Battery

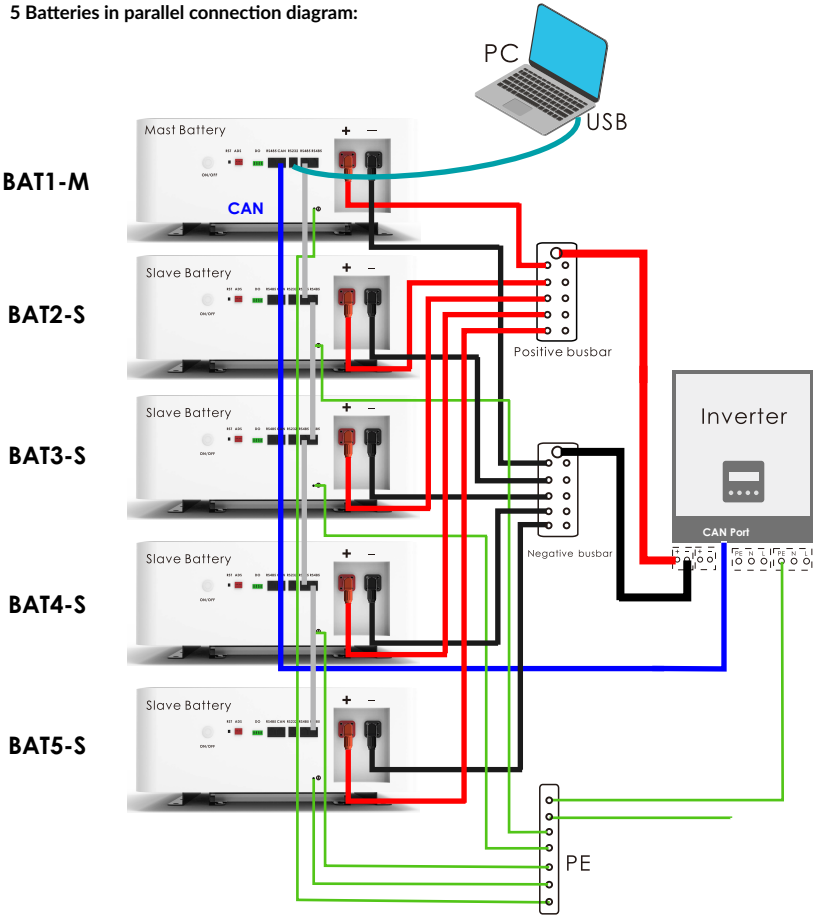
4 Batteries in parallel connection diagram:



The Dial-up Addresses Of Battery Module

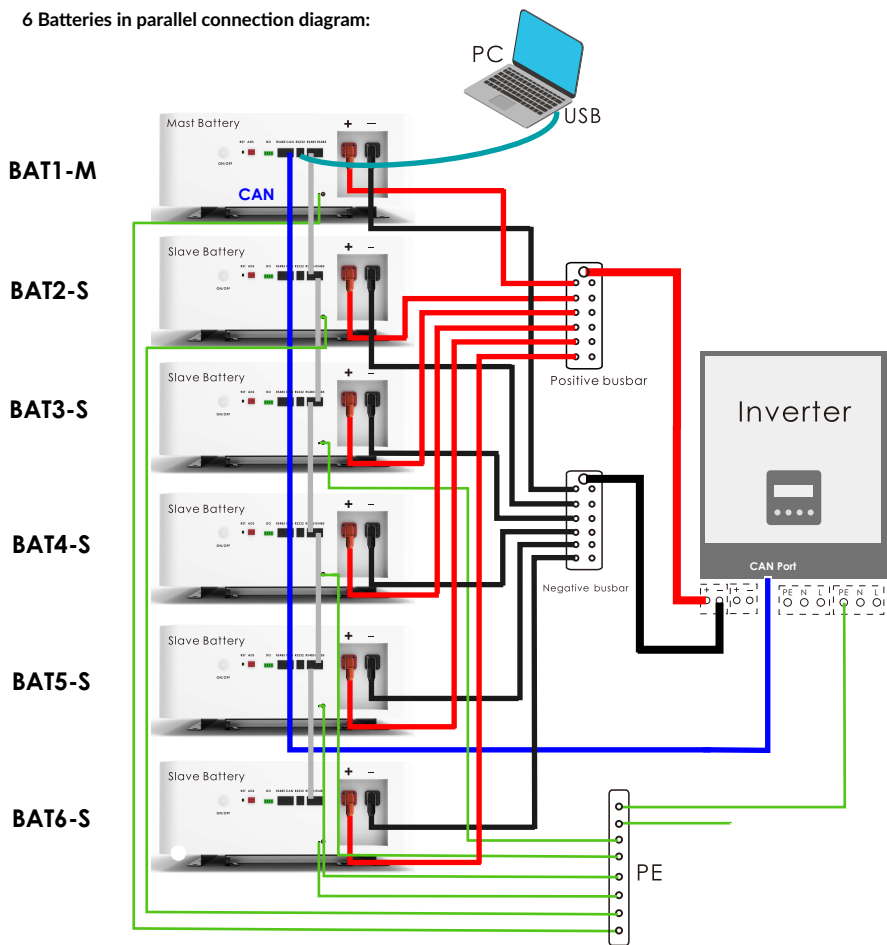
Battery No.	Dial-up Addresses	Description
1	BAT1-M 	Mast Battery
2	BAT2-S 	Slave Battery
3	BAT3-S 	Slave Battery
4	BAT4-S 	Slave Battery

5 Batteries in parallel connection diagram:









The Dial-up Addresses Of Battery Module		
Battery No.	Dial-up Addresses	Description
1	<div><div>BAT1-M</div><div><div>ON</div><div>1</div><div>2</div><div>3</div><div>4</div></div></div>	Mast Battery
2	<div><div>BAT2-S</div><div><div>ON</div><div>1</div><div>2</div><div>3</div><div>4</div></div></div>	Slave Battery
3	<div><div>BAT3-S</div><div><div>ON</div><div>1</div><div>2</div><div>3</div><div>4</div></div></div>	Slave Battery
4	<div><div>BAT4-S</div><div><div>ON</div><div>1</div><div>2</div><div>3</div><div>4</div></div></div>	Slave Battery
5	<div><div>BAT5-S</div><div><div>ON</div><div>1</div><div>2</div><div>3</div><div>4</div></div></div>	Slave Battery

6 Batteries in parallel connection diagram:



The Dial-up Addresses Of Battery Module

Battery No.	Dial-up Addresses	Description
1		Mast Battery
2		Slave Battery
3		Slave Battery
4		Slave Battery
5		Slave Battery
6		Slave Battery