



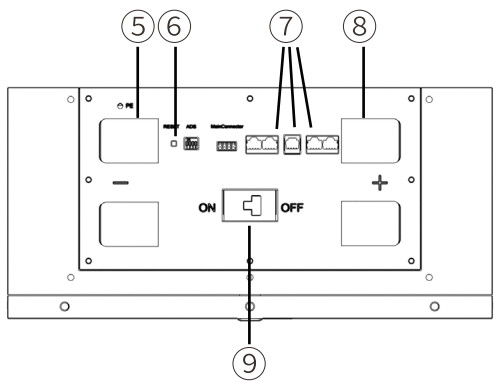
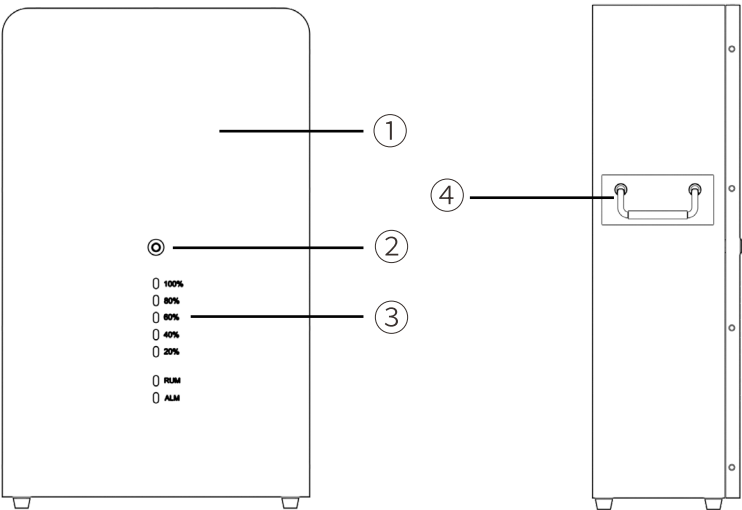
RESIDENTIAL
BATTERY



Lithium Iron Phosphate
Household Energy Storage Series

PRODUCT DESCRIPTION

Appearance is introduced



- ① Cover

② Power Switch

③ LED strip

④ Handle

⑤ Negative Terminal
- ⑥ Reset Switch

⑦ Communication Interface

⑧ Positive Terminal

⑨ Air Switch

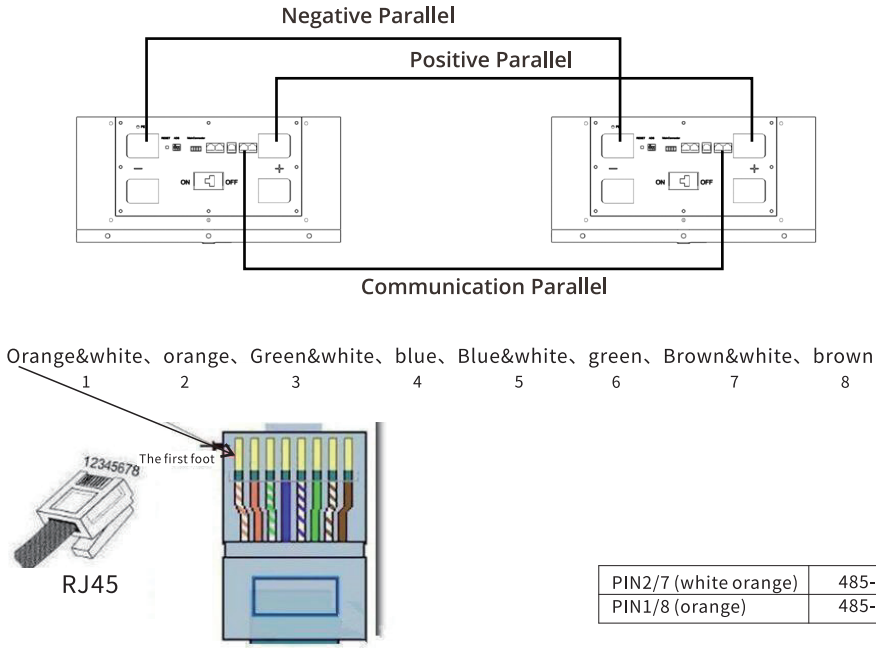
A. Comparison table of DIP switch settings

ADS	DIP Switch			
	#1	#2	#3	#4
0	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	ON	ON	OFF	OFF
4	OFF	OFF	ON	OFF
5	ON	OFF	ON	OFF
6	OFF	ON	ON	OFF
7	ON	ON	ON	OFF
8	OFF	OFF	OFF	ON
9	ON	OFF	OFF	ON
10	OFF	ON	OFF	ON
11	ON	ON	OFF	ON
12	OFF	OFF	ON	ON
13	ON	OFF	ON	ON
14	OFF	ON	ON	ON
15	ON	ON	ON	ON

B. Communication cascade between BMS modules

Lead out a communication network cable from the RS485 port of the BMS module, and connect it to the RS-485 of the FSU device serial port of the dynamic loop monitoring system. The RJ45 plug of the network-cable, pin 1 positive (white-orange) connects to RS485-A; pin 2 negative (Orange) connects to RS485-B;

The wiring is as shown in the figure below:



Common abnormal phenomena of battery system and troubleshooting methods

Failure phenomenon	Possible Causes	Troubleshooting methods
BMS cannot be activated	Whether the weak-current switch of the BMS is turned on;Module serial-connection error	Check the connection line and install it according to the method described in the installation manual.
BMS red light is always on	Red-light warning, fault exists	Locate the fault point according to the method described in the above table: 1. Voltage-sensor failure / temperature-sensor failure: Check whether the sampling line is connected correctly; you can replace the sampling line for troubleshooting, then restart to observe whether it is restored. 2. Charging-circuit failure, discharging-circuit failure: Contact the manufacturer for consultation. 3. Battery failure: Check whether the connection of the sampling terminal is normal; check whether the voltage value of all modules is within the voltage range specified in the manual after turning off the BMS; observe whether the fault is cleared after restarting. If not, contact the manufacturer. 4. Sampling IC signal failure: Check whether the voltage-sampling line is connected properly; you can replace the sampling line for troubleshooting, observe whether it is restored after restarting; contact the manufacturer if it is not restored.
BMS cannot communicate with dynamic-loop	1. The BMS DIP address is different from the address queried by the dynamic-loop system. 2. When multiple units are connected in parallel, they cannot communicate normally. 3. The communication serial-port setting is incorrect. 4. RS485 communication-line sequence is incorrect. 5. Abnormal physical connection.	1. Detect and reset the DIP address. 2. When multiple units are connected in parallel, different addresses need to be set. Reset the DIP address of each product according to the address of the dynamic-loop system. 3. Set the correct serial-port configuration according to our communication protocol. 4. Connect the communication line correctly as described in the installation manual. 5. Check that the physical connection of the communication circuit is normal.

Safety and precautions

1. The battery module must be used in conjunction with the BMS. Mixed-use of batteries from different manufacturers is strictly prohibited.
2. Inspect the battery module voltage and check for damage; if there is any abnormality, please stop using it.
3. It is strictly forbidden to stack full-pallet batteries using a fork-plate during transportation and storage. Stacking battery modules is prohibited during installation and transportation. The battery is equipped with positive-negative lead terminals or sampling-line leads; squeezing, stacking or placing the battery upside-down is strictly forbidden.
4. Parallel-matching requirements for battery modules: (Notes before picking and installation)
5. Parallel wires are included in the battery-module packing box, and the parallel wires correspond to the battery modules. Mixed-insertion is strictly prohibited.
6. Do not use or place the battery module near high-temperature and heat sources, and keep it away from fire and water sources.
7. It is forbidden to disassemble the battery module, knock, throw or step on the battery module. Do not dismantle the BMS or remove the yellow tamper-evident sticker without authorization.
8. Before installing the battery module, check whether the open-circuit voltage of the battery is within the normal range. The "positive" and "negative" signs are printed on the module, and the electrical polarity should be correctly identified. It is strictly forbidden to reverse-connect or short-circuit the battery.
9. Insulation tools and insulating gloves should be used during installation and transportation. Remove metal-containing accessories such as watches, bracelets and rings from your wrists to prevent electric shock and short-circuit of the positive and negative electrodes. During installation, the battery-module poles need to be insulated and protected. If the poles are close to the battery rack and other conductors, the battery poles or battery racks need to be insulated and protected.
10. The recommended transportation method is two-person lifting. Safety ropes or load-bearing mesh bags are recommended transport tools. The battery box must be manually carried to the site. Rough handling that may damage the product is strictly prohibited.
11. Installation and maintenance requirements. After the battery module is wall-mounted, the poles and wiring terminals shall allow front-side maintenance.
12. Battery-rack compatibility: For multiple groups of parallel-connected batteries, follow the battery-rack installation steps, battery-module installation and cable-connection requirements, and select the corresponding installation drawing according to different battery models. For installation without a battery rack (such as outdoor integrated power cabinet), refer to the schematic diagram of battery-module installation and cable-connection under rack-mount mode.
13. Please read this installation manual carefully before installation. If you have any questions, please contact your supplier.

BMS Test

After the BMS and battery modules are installed in the above-mentioned order, activate the BMS by pressing the ON/OFF button to power it on. After activation, the normal operating status is indicated by a steady-on green LED only (red and orange LEDs are both off). If the red-light alarm indicator is lit, press the reset button to restart and clear the alarm. A successful forced restart is confirmed when the capacity indicator runs in a marquee flashing cycle and all 9 indicators light up sequentially during self-test. Press and hold the RESET or ON/OFF reset button for 5-42 seconds, and all LED indicators of the BMS will turn off.

When the BMS is running normally, measure the battery voltage. Adjust the floating-charge voltage of the switching power supply to match the battery voltage. Check the positive- and negative-output cables of the switching-mode power supply. Connect the positive terminal of the switching-mode power supply to the battery positive busbar (or the positive pole of the 51.2V battery system). Connect the negative terminal of the switching-mode power supply to the battery negative busbar (or the P-Output terminal of the BMS). Switch on the battery circuit-breaker on the power-supply side, then configure the power-supply parameters according to the table below.

Appendix: Switching power supply system lithium iron battery parameter setting

NO	Parameter type	51.2V battery system
1	float charge voltage	56V
2	Equalized charge voltage	57.6V
3	battery capacity	Set according to the installed battery
4	Charging	Typical: 0.20C; Maximum: 1C (configurable)
5	Over-voltage alarm	58.4V
6	Low voltage alarm	44.8V
7	EOD(end of discharge)	43.2V
8	Inverter Cutoff Voltage	43V

The Battery System And The Dynamic Environment Monitoring FSU Connection

1. 1. After the battery-system installation is finished, connect the RS485/RJ45 network-cable port of the BMS module with a communication network cable. Multiple BMS modules can be cascaded by communication network cable (no cascading connection is required for a single-module setup).
2. 2. When multiple BMS modules are used in parallel, you must set their communication addresses via the DIP-switch (ADD). If one single BMS module is used, its communication address shall be set to 1, and the corresponding DIP switch shall be toggled to “1”. The factory default status is “0” (OFF); toggling the switch to “1” means “ON”.

Note: Both RS485 network-cable ports on the BMS support communication. Multi-level cascading starts from Address #1 (communication begins from Unit #2). Set each address according to the DIP-switch comparison table. Configure the master-slave mode for BMS units via upper-computer software. Normally, the first BMS is set as the master unit, and the rest are configured as slave units; up to 12 units may be connected in parallel.

Instruction for LED indication

Accessories (LED strip specification)

1. Brief introduction

1.1 LED Strip distribution

Run-Led	Alarm-Led	Led-01	Led-02	Led-03	Led-04	Led-05
Run-Led	Alarm-Led	Power lamp				
		20%	40%	60%	80%	100%

1.2 Classification of Light Using

A total of 7 RGB-LED indicators are mounted on the light-board. Each indicator can display red, yellow, blue, green and other colours. The LEDs are divided into three functional categories as shown below:

Classification of lights	quantity	explicit declaration
Run-Led	1	Running light, indicating the running state; Under normal conditions: Steady green; Discharge status: Steady green Charging status: Blinking green
Alarm-led	1	Warning light, indicating BMS alarm/protection/failure status; Normal state, no alarm, no protection: Off. Alarm status, or Low battery: Blinking yellow (overvoltage and undervoltage alarms do not indicate the alarm and are not blinking yellow). Protection status: Steady red. Failure failure: steady red;
SOC Leds	5	Quantity indicator: display power; The color is consistent with the color of the running light; Charging status: green, showing electricity, remaining SOC light flow effect; Discharge status: green, according to SOC display power
Power-on self-test		Boot all LED (green) self-test display, as follows: Green water light, green display from the indicator Run-Led start to increase, finally full light, and then enter the working mode;
Hibernation and undervoltage state		All leds are off