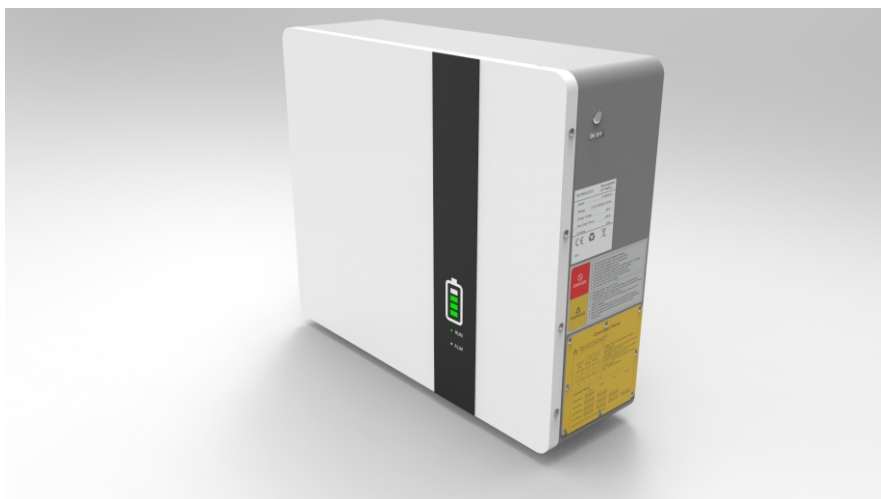


Wall Mounted Lithium Battery Series

Introduction



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1 Safety Information

1.1 General Safety

Please carefully read the manual safety precautions, and observe all the safety instructions on the equipment and in this document.

The "DANGER", "WARNING", and "NOTICE" statements in this document do not cover all the safety instructions. They are only supplements to the safety instructions.

In order to ensure human safety and effectively utilize this manual, use the appropriate symbol to emphasized outstanding. You must fully understand and comply with the emphasized information to avoid personal injury and property damage. Relative safety symbols have been listed below.

	DANGER indicates a hazardous situation which, if not avoided will result in serious injury and fire happens.
Danger	
	WARNING indicates a hazardous situation which, if not avoided will result in property loss or void warranty.
Warning	
	NOTICE indicates a
Notice	

Follow local laws and regulations when installing, operating, or maintaining the equipment. The safety instructions in this document are only supplements to local laws and regulations.

1.2 Personal Safety Personal Requirements

Personnel who plan to install or maintain battery equipment must be trained, understood all necessary safety precautions, and be able to perform all operations correctly.

Only qualified professionals or trained personnel are allowed to install, operate, and maintain the equipment.

Personal Safety




- Do not place battery at a children or pet touchable area.
- Do not touch the energized battery, as the enclosure is hot.
- Do not touch the energized battery terminals.
- Do not stand on, lean on, or sit on the battery.

1.3 Electrical Safety

Symbols on battery

There are some electrical symbols on battery relate to electrical safety. Please make sure you have fully understand them before installation.

	SOC Indicator	SOC Indicator on front panel is for battery energy percentage display.
 RUN	Working indicator	Battery working indicator on front panel is for showing battery working status.
 ALARM	Alarm indicator	Red alarm light shows alarm and fault happen.
	Electrical danger	Voltage exits when the battery is powered on. Only qualified engineers are allowed to operate.
	Earth connector	Earth connection.
	DC positive and negative connectors	Identify positive and negative connectors of DC power source.
	CE mark	The product meets CE certification.
	WEEE tag	Can't leave battery as garbage disposal.
	Recycle	Battery can be recycled

Electrical Safety



Danger

- Before installation, ensure that the equipment is intact. Otherwise, electric shocks or fire may occur.
- Do not connect or disconnect power cables when battery is power-on. Which may cause electric arcs and sparks more over fire or personal injury.
- Before connecting a power cable, check the positive or negative connectors are correct.
- Do not parallel connect different batteries.
- Do not connect battery with AC directly.
- Do not connect battery with PV wiring directly.
- Do not connect batteries in series.
- Do not connect battery to faulty or unqualified inverter or charger.
- Do not create short circuits with the external connection.
- Make sure cut-off grid and power-off battery before maintenance.
- Make sure earth cable connect correctly before operation.



Warning

- Recharge battery every six months.
- Recharge battery within 10 days after battery is fully discharged.
- Please engage greater than or equal to two batteries when maximum charge current is more than 80A.
- Make sure battery cable placement is installed correctly.
- Use moto meter to make sure there is no voltage between positive and negative terminals after power-off battery when install or maintenance.



Notice

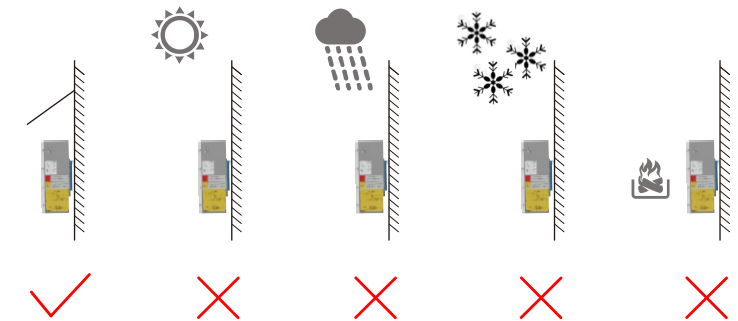
- Please use dedicated insulated tools for install and maintenance.
- Please make sure all batteries are power-off when multiple parallel connection.
- Please check lights on sequence when battery power-on.
- Please make sure communication connection connect correctly with battery and inverter.
- Please make sure ADDS dip switch settings are correctly for single or multiple batteries.
- Please check inverter alarm or SOC reading when there is BMS communication with inverter.

1.4 Environment Safety



Warning

- Ensure that the equipment is installed in a dry and well-ventilated environment.
- The installation position must be away from direct sunlight and rain.
- The installation position must be far away from fire sources.
- The installation position must be far away from water sources such as taps, sewer pipes, and sprinklers to prevent water seepage.
- The bracket must be installed solid and horizontal.
- Do not expose the equipment to flammable or explosive gas or smoke. Do not perform any operation on the equipment in such environments.
- The operation and service life of the battery depend on the operating temperature. Operate the battery at a temperature equal to or better than the ambient temperature. The recommended operating temperature ranges from 0°C to 30°C.



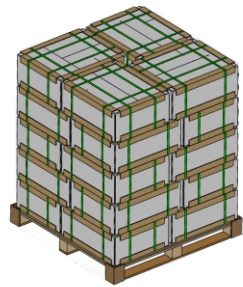
1.5 Transportation Safety



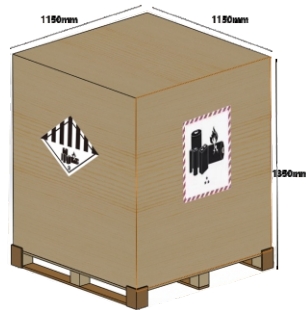
Warning

- The products passed certification UN38.3
- The products have MSDS.
- The products belong to class 9 dangerous goods.
- Please protect the packing case from the below situations.

Being dampened by rains, snows, or falling into water
Falling or mechanical impact
Being upside-down or tilted



20 batteries per pallet



2 Product Information

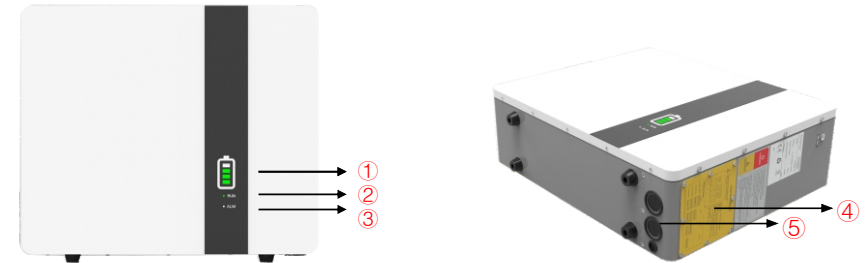
2.1 Battery Overview

The IVY5200-W battery is a wall mounted lithium battery pack which consists of long life-span LiFePO4 battery cells and functional BMS. It can store and release electric energy based on the requirements of the inverter controller. It is mainly for home energy storage system.

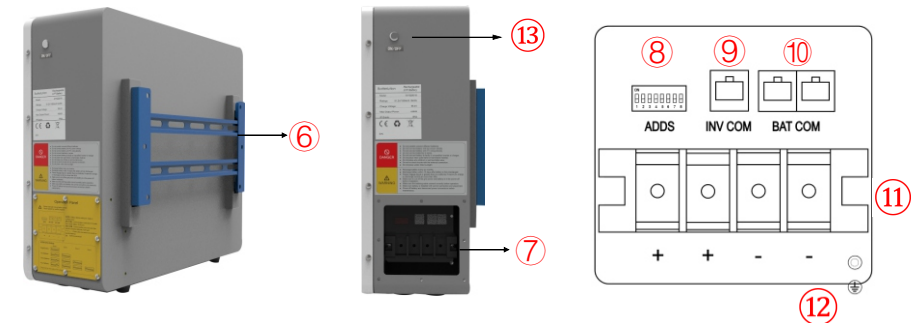
Features

- LiFePO4 prismatic cell
- 6000 cycles @0.5C conditions
- Maximum 1C charge and discharge capability
- Wall mounted IP 54 grade
- Scalable up to maximum 16 packs
- Protective and active BMS allows greater reliability and control
- IP 54 grade
- Building in terminal design
- Fully recyclable at the end of life
- Compact

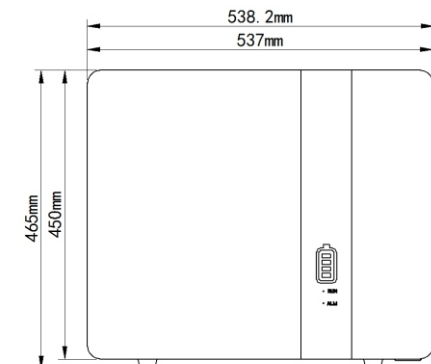
2.2 Appearance



- | | |
|------------------------|--|
| ① SOC Indicator | ⑦ Operation Area |
| ② Working Indicator | ⑧ ADDS Switch |
| ③ Alarm Indicator | ⑨ Inverter Communication Port |
| ④ Removable plate | ⑩ Battery Parallel communication Port |
| ⑤ Cables Inlets | ⑪ Positive and Negative Cable Connectors |
| ⑥ Wall Mounted Bracket | ⑫ Earthing Connector |
| | ⑬ Power on / off Switch |



2.3 Dimensions



2.4 Capacity Options

The battery can be parallel connected for extending power(kW) and energy(kWh)

Warning

- The maximum power(kW) is limited by main cables from master battery to inverter
- The maximum 16 battery packs can be parallel communicated.



AND MORE

2.5 Display

SOC Display



Charging

When battery is in charging,
top green light is flashing



Working indicator is solid on  RUN

Discharging



When battery is in discharging,
top green light is solid on.

 RUN  Working indicator is flashing

Alarm

 ALM

When alarm indicator is flashing, charge or
discharge over-current alarm happens.

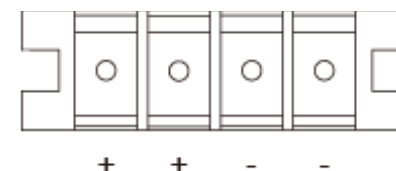
When alarm indicator is solid on, fault happens
and BMS protects battery to stop working.

2.6 Operation

Power Switch ON / OFF

To power on the whole battery system, no power output.

Power Connector

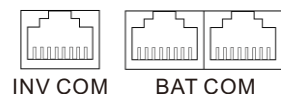


There are four power connectors in operation area which are two groups of positive and negative connections. Both of them are the same can be connected to inverter or parallel battery.

Notice

- Please remove operation plate to find operation area.
- Please wire in cables from bottom inlets firstly.
- Please use standard M8 lug to install cable and connectors.

Communication Port

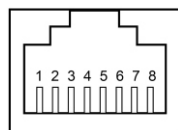


There are three RJ45 ports for BMS to inverter and parallel batteries communication. INV COM is for updating battery information to compatible inverter or top tier when necessary. It is CAN communication. BAT COM is RS485 for link to next battery pack to allow parallel batteries to work as one group.

Please see INV COM pins definition as below.

Pins	Definitions
1, 2, 7, 8	NC (empty)
4	CAN-L
5	CAN-H
6	Ground

INV COM (CAN)



Pins	Definitions
1, 8	RS485-B
2, 7	RS485-A
3, 6	Ground
4, 5	NC (empty)

BAT COM (RS485)

Notice

- Please find communication ports in operation area
- CAN communication baud rate is 500K
- RS485 communication baud rate is 19200
- Please wire in cables from bottom inlets firstly.

Address switch settings

Single Battery		
Two Batteries		
Three Batteries		
Four Batteries		
Five Batteries		
Six Batteries		
Seven Batteries		
Eight Batteries		

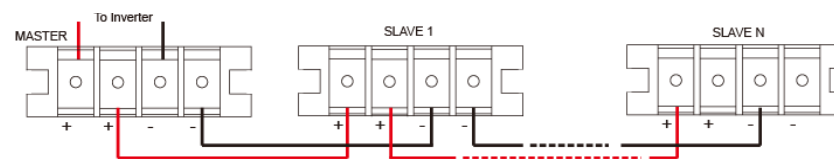
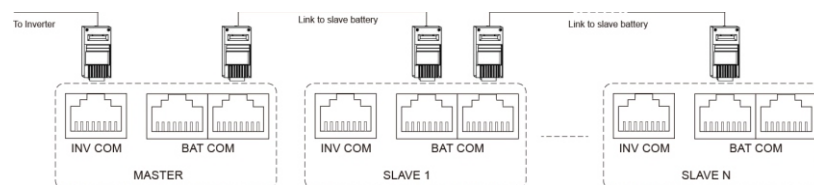
For Example, blue frame is the settings for 4 batteries.

Nine Batteries		Slave 8
Ten Batteries		Slave 9
Eleven Batteries		Slave 10
Twelve Batteries		Slave 11
Thirteen Batteries		Slave 12
Fourteen Batteries		Slave 13
Fifteen Batteries		Slave 14
Sixteen Batteries		Slave 15

2.7 Multiple Batteries Parallel Connection

Warning

- Please set dip address switches as above.
- Please see communication ports link connection below
- Please see power parallel connection below.
- Please ensure that the equipment is connected permanently to the protective ground individually or parallel.



3 Specifications

3.1 Battery Specifications

Item	Specifications	remark
Battery Type	LiFePO4	
Typical Capacity (Ah)	100Ah	
Typical Voltage (V)	51.2V	
Connection	2P16S	
Voltage Working Range (V)	40V~58.4	Single cell: 2.5V~3.65V
Working Temp.	Charge: 0℃~+55℃, discharge: -20℃~+60℃	
Storage Temp.	-20℃~+35℃	
Normal capacity (kWh)	5.12Kwh	
Max Charging Rate	0.75C	
Max Discharging Rate	1C	
Cycles	≥5000 次	25℃ 0.5C 100%DOD
SOC accuracy	≤8%	
Weight	≤50kg	
Dimensions	158x570x465mm	DxWxH
IP Grade	IP54	
Transportation SOC	50%	
Cooling	Nature	