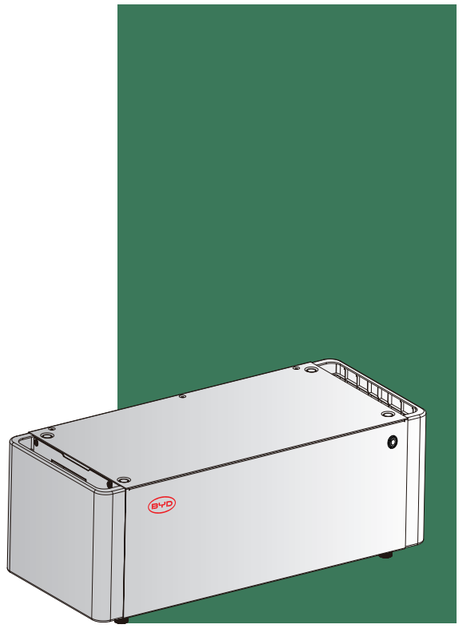


BYD Battery-Box
LV5.0 Battery Module
Quick Start Guide

EN-QSG Jun-2024 Version02

Configure the Battery System

LV5.0 is equipped with Bluetooth and WIFI function. Through the mobile APP, you can realize intelligent battery management, including remote data monitoring, firmware upgrade and troubleshooting.

Download the APP " BYD Energy"

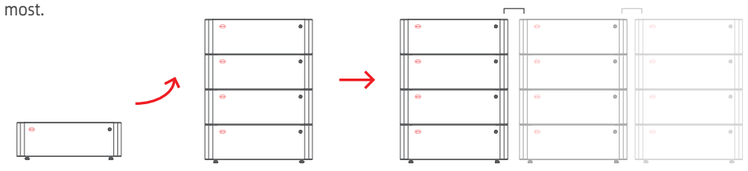
Configuration steps:

Download — Login/Register — Add Device — Bluetooth Connection /Networking — Enjoy

For detailed configuration steps, please refer to the user manual and APP instructions,
Website: www.bydenergy.com.

Scalability

One tower could be made up by 1 to 4 battery modules, and 8 towers could be connected in parallel at most.



Battery module | Tower | Tower Quantity ≤ 8

Copyright©2023 BYD Co., Ltd. All Rights Reserved.
BYD reserves the right to modify the technical datasheet and appearance of the product in the catalog without prior advice to the users. No part of this document can be copied or reproduced without BYD permission.

www.bydenergy.com
+86-755-89888888
BYD Company Limited
3009, BYD Road, Pingshan, Shenzhen, P.R.China

Safety

IMPORTANT SAFETY INSTRUCTIONS

The battery module has been designed and tested in accordance with international safety requirements. However, in order to prevent personal injury and property damage and ensure long-term operation of the battery module, please read this section carefully and observe all safety information at all times.

Battery Module Leakage

If the battery modules leak electrolytes, contacting with the leaking liquid or gas should be avoided. The electrolyte is corrosive, and the contact may cause skin irritation and chemical burns. If one is exposed to the leaked substance, follow these steps:

Accidental inhalation: Evacuate the contaminated area, and seek medical help immediately.
Eye exposure: Rinse eyes with flowing water for 15 minutes and seek medical help immediately.
Skin contact: Wash the affected area thoroughly with soap and water and seek medical help immediately.
Accidental ingestion: Induce vomiting and seek medical help immediately.

Fire fighting Measures

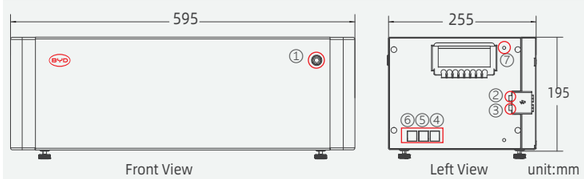
The battery modules may catch fire when it is put into the fire. In case of fire, please make sure that an ABC or carbon dioxide extinguisher is nearby. Water cannot be used to extinguish the fire.
Full protective clothing and self-contained breathing apparatus are required for the firefighters to extinguish the fire.

Battery Modules Handling and Storage Guide

- The battery module and its components should be protected from damage when transporting and handling.
- Do not impact, pull, drag, or step on the battery module.
- Do not insert unrelated objects into any part of the battery module.
- Do not throw the battery module into a fire.
- Do not soak the battery module in water or seawater.
- Do not expose to strong oxidizers.
- Do not short circuit the battery module.
- The battery module cannot be stored at high temperatures (≥ 50°C).
- The battery module cannot be stored directly under the sun.
- The battery module cannot be stored in a high humidity environment.
- Do not use the battery module if it is defective, or appears cracked, broken or other wise damaged, or fails to operate.
- Do not attempt to open, disassemble, repair, tamper with, or modify the battery modules. The battery modules are not user-serviceable.
- Do not use cleaning solvents to clean the battery module.

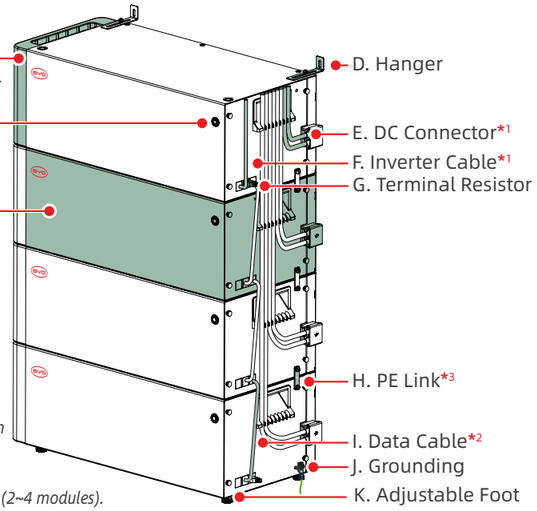
Battery Module Overview

Structure Dimension Drawing



No.	Description
①	ON/OFF
②	P-
③	P+
④	COM-OUT
⑤	COM-IN
⑥	INV
⑦	Grounding

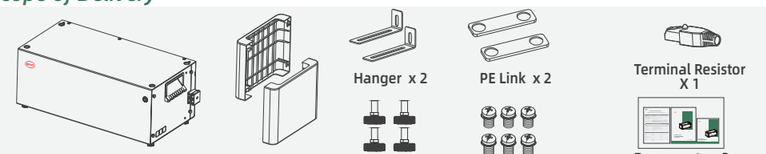
Battery Module Description



*1. DC Connector & Inverter Cable length need to be customized, please contact your distributor.
* 2. Data Cable is suitable for the tower (2~4 modules).
* 3. PE Link must be used for more than one battery module.

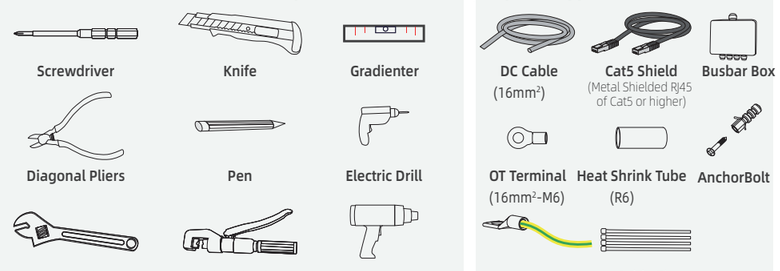
Requirements for Installation

Scope of Delivery



Battery Module x 1 | Protective Cover x 2 | Hanger x 2 | PE Link x 2 | Terminal Resistor X 1 | Foot x 4 | Screw M5 x 6 | Documents x 3 (UM x 1 / QSG x 1 / MSDS x 1)

Tools & Additional Accessories (not included in the scope of delivery)



Screwdriver | Knife | Gradienter | DC Cable (16mm²) | Cat5 Shield (Metal Shielded RJ45 of Cat5 or higher) | Busbar Box | Diagonal Pliers | Pen | Electric Drill | OT Terminal (16mm²-M6) | Heat Shrink Tube (R6) | AnchorBolt | Wrench | Hydraulic Clamp | Heat Gun | PE | Cable Tie

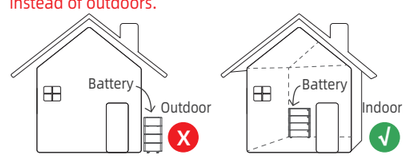
Safety Gear



Insulated gloves | Safety shoes | Goggles | 2 qualified people

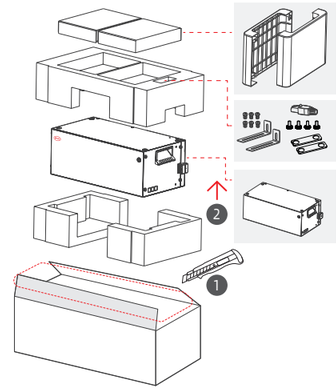
Installation Scene

Note: Battery module must be installed indoors instead of outdoors.

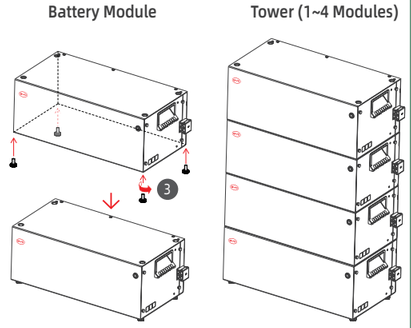


Floor Installation

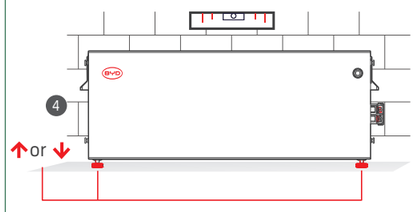
1. Open the box, take out battery module and accessories.



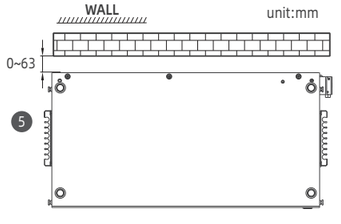
2. Install the feet to the battery module. When stacking 2 or more modules, only the bottom one installs the foot.



3. Adjust the feet to ensure that the battery remains horizontal (**Tilt is not allowed!**).

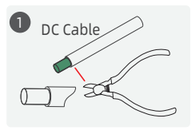


4. Put the battery module along the wall, and keep a distance of 0~63 mm.

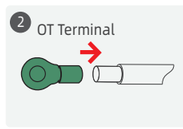


Preparation for Wiring

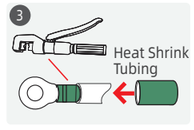
2 DC Connection (DC cable 16mm² / OT 16mm²-M6 / Heat Shrink Tubing R6)



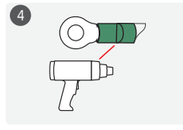
1. Wire stripping.



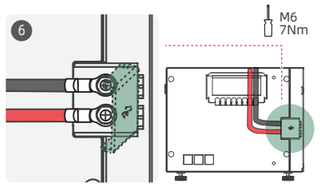
2. Connect the OT terminal to the core cable.



3. Press the hydraulic clamp to the OT terminal and the wire core.



4. Put a heat shrink tube on the DC cable, and then heat it with a heat gun.



6. Unscrew and connect the DC cable.



5. Another DC cable is processed in the same way.

Data Cable Connection

1. Connect the Battery Module and Inverter with Inverter cable into INV port.
2. Data cable is connected between the battery modules in the tower.

Cat5 Shield

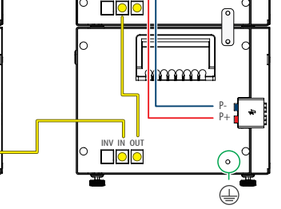
Data Cable Connection between Inverter and Battery module



Connect Inverter		Connect Module/Tower	
No.	Assignment	No.	Assignment
1	485-B	1	Unused
2	485-A	2	Unused
3	Unused	3	CAN_H
4	CAN_H	4	Unused
5	CAN_L	5	Unused
6	Unused	6	CAN_L
7	Unused	7	CAN_L
8	Unused	8	CAN_H

Connecting the PE

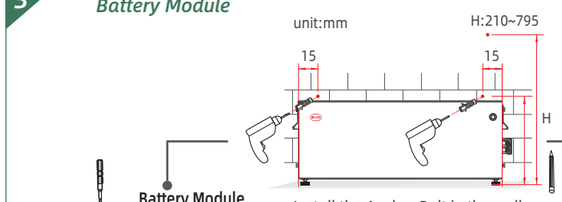
Battery module & tower require only one grounding wire.



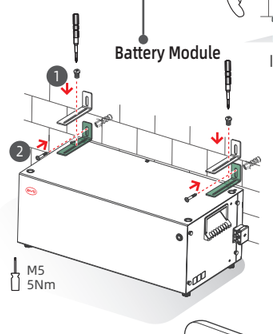
Floor Installation

3

Battery Module

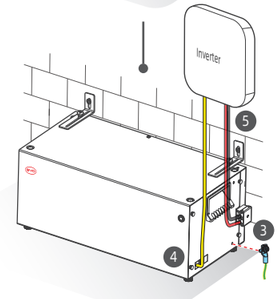


Install the Anchor Bolt in the wall.



Floor Installation

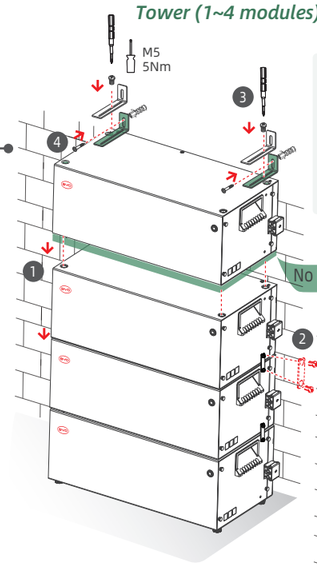
1. Fasten hangers to the battery module by screws.
2. Then fix the battery module to the wall.



Cable Connection

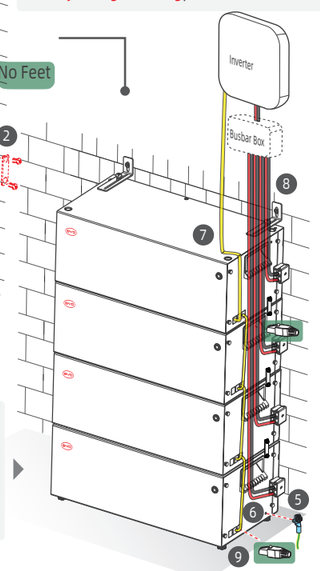
3. Connect ground cable.
4. Connect data cable.
5. Connect DC cable.

Tower (1~4 modules)



Floor Installation

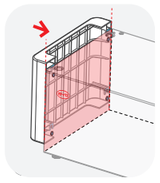
1. Stack the battery modules one by one.
2. Connect the battery modules with PE links.
3. Fasten hangers to the battery module by screws.
4. Then fix the battery module to the wall (PE links have the functions of connecting battery and grounding).

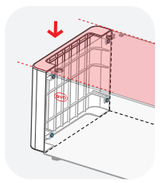


Cable Connection

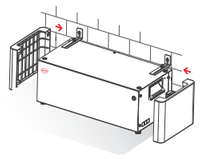
5. Connect ground cable.
6. Connect data cable between the battery modules in the tower.
7. Connect data cable.
8. Connect DC cable.
9. Connect terminal resistor (IN & OUT).

Protective Cover Installation

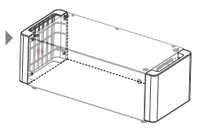




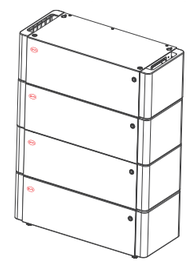
Tighten protective covers on both sides.



Battery module



Tower (1~4 modules)



SET-UP Topology

Operation

Requirements:

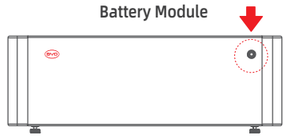
1. After the battery and inverter are installed, **the equipment starts up in this order: Battery →Switch*→ Inverter.**

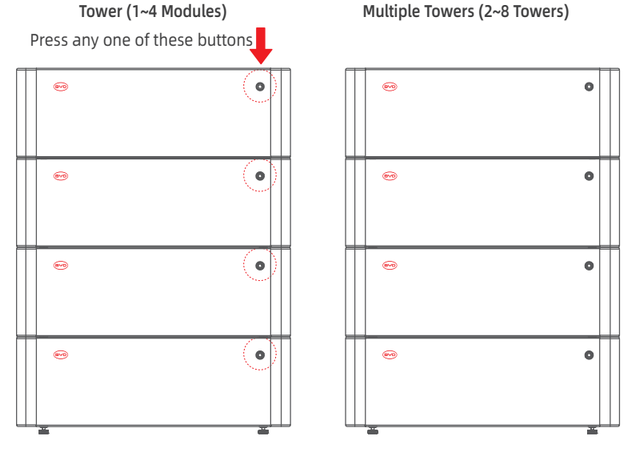
* Turn on the air switch between battery and inverter if there is any.

Press the button, after 1s, the battery module or tower will be activated. Then they will match automatically. The green LED light indicates that the battery runs normally.

2. Press the button for around 2~3s to shut down the equipment, **the equipment shuts down in this order: Inverter → Battery→ Switch*.**

* Turn off the air switch between battery and inverter if there is any.





LED Signals

Normal		
Module	**Indicator Status**	**Status Description**
Any Module	Constant **green**	Idle / BMS firmware updating
	Flashing **green** slowly	Charging
	Flashing **green** quickly	Discharging
	Orange light flashes 6 times and then turns **green**	Power on after pressing any battery switch button for 1s
	Orange light flashes slowly and then goes out	Shutdown after pressing any battery switch button for 2~3s

Abnormal		
Module	**Indicator Status**	**Status Description**
Master	**Orange** light flashes continuously	Battery-inverter communication timeout Battery to battery communication timeout
	Constant **red**	Battery failure, shutdown after a period of time Slave shutdown due to failure, system shutdown delayed for 7 days **Note: Please Contact with BYD local after-sales service as soon as possible**
	Red light flashing	Battery protection, shutdown in a short-time
	The light goes out directly	Failure causes system shutdown
Slave	**Orange** light flashes continuously	Battery to battery communication timeout
	Constant **red**	Battery failure, shutdown after a period of time
	Red light flashing	Battery protection, shutdown in a short-time
	The light goes out directly	Failure causes battery shutdown