Power Lite Installation Manual

Ver 1.0

For the latest Power Lite installation documents in all supported languages, visit:
www.uzenergy.com/

Warning: Read this entire document before installing or using Power Lite. Failure to do so or to follow any of the instructions or warnings in this document can result in electrical shock, serious injury, or death, or can damage Power Lite, potentially rendering it inoperable.

PRODUCT SPECIFICATIONS
All specifications and descriptions contained in this document are verified to be accurate at the time of printing. However, because continuous improvement is a goal at UZ ENERGY, we reserve the right to make product modifications at any time.

The images provided in this document are for demonstration purposes only. Depending on product version and market region, details may appear slightly different.

ERRORS OR OMISSIONS
To communicate any inaccuracies or omissions in this manual, send an email to wangyx@uzenergy.com

ELECTRONIC DEVICE: DO NOT THROW AWAY
Proper Disposal of batteries is required. Refer to your local codes for disposal requirements

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE IMPORTANT SAFETY INSTRUCTIONS

This manual contains important instructions for the Power Lite that must be followed during installation and maintenance of the system.

Power Lite installation and service require knowledge of high voltage electricity and should only be performed by UZ ENERGY Certified Installers. UZ ENERGY assumes no liability for injury or property damage due to repairs attempted by unqualified individuals or a failure to properly follow these instructions. These warnings and cautions must be followed when using Power Lite.

Symbols Used

These symbols indicate important safety information in this guide or on the equipment:

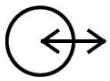
 WARNING: indicates a hazardous situation which, if not avoided, could result in injury or death.

 CAUTION: indicates a hazardous situation which, if not avoided, could result in minor injury or damage to the equipment.

NOTE: indicate an important step or tip that leads to best results, but is not safety or damage related.

 REFER TO OPERATING INSTRUCTIONS: indicates that user should refer to operating or installation instructions before proceeding.

 RISK OF ELECTRIC SHOCK: indicates components that present risk of electrical shock.

 BIDIRECTIONAL TERMINIAL: indicates location of combined input/output connector on the equipment.

 PROTECTIVE CONDUCTOR TERMINAL: indicates location of grounding connection on the equipment.

General Information

WARNING: Reading this entire document before installing or using Power Lite. Failure to do so or to follow any of the instructions or warnings in this document can result in electrical shock, serious injury, or death or can damage Power Lite, potentially rendering it inoperable.

WARNING: A battery can present a risk of electrical shock, fire, or explosion from vented gases. Observe proper precautions.

WARNING: Power Lite installation must be carried out only by UZ ENERGY Certified Installers who have been trained properly.

WARNING: Power Lite is heavy. Use of Lift equipment is recommended.

WARNING: Use Power Lite only as directed.

WARNING: Do not use Power Lite if it is defective, appears cracked, broken, or otherwise damaged, or fails to operate.

WARNING: Before beginning the wiring portion of the installation, ensure that Power Lite is switched off, and open any associated circuit breakers and disconnect switches (if applicable for the installation).

WARNING: Do not attempt to open, disassemble, repair, tamper with, or modify Power Lite. Power Lite and its components are not user serviceable. Batteries in Power Lite are replaceable. Contact the UZ ENERGY Certified Installer who installed the system for any repairs.

WARNING: To protect Power Lite and its components from damage when transporting, handle with care. Do not impact, Pull, drag, or step on Power Lite. Do not subject Power Lite to any strong force. To help Prevent damage, leave Power Lite in its shipping packaging until it is ready to be installed.

WARNING: Do not insert foreign objects into any part of Power Lite.

WARNING: Do not expose Power Lite or its components to direct flame.

WARNING: Do not install Power Lite near heating equipment.

WARNING: Do not immerse Power Lite or its components in water or other fluids.

CAUTION: Do not use solvents to clean Power Lite, or expose Power Lite to flammable or harsh chemicals or vapors.

CAUTION: Do not use fluids, parts or accessories other than those specified in this manual including use of non-genuine UZ ENERGY parts or accessories, or parts or

accessories not purchased directly from UZ ENERGY or a UZ ENERGY-certified party.

⚠ CAUTION: Do not place Power Lite in a storage condition for more than one (1) month, or permit the electrical feed on the Power Lite to be served for more than one (1) month, without placing Power Lite into a storage condition in accordance with UZ ENERGY's storage specifications.

⚠ CAUTION: Do not paint any part of Power Lite, including any internal or external components such as the exterior shell or casing.

⚠ CAUTION: Do not connect Power Lite directly to photo voltaic (PV) solar wiring.

⚠ CAUTION: When installing Power Lite in a garage or near vehicles, keep it out of the driving path. If possible, install Power Lite on a side wall and/or above the height of vehicle bumpers.

Environmental Conditions

⚠ WARNING: Install Power Lite in a location that prevents damage from flooding.

⚠ WARNING: Operating or storing Power Lite in temperatures outside its specified range might cause damage to Power Lite.

⚠ WARNING: Do not expose Power Lite to ambient temperature above 40 ℃ or below -20 ℃.

⚠ CAUTION: Ensure that no water sources are above or near Power Lite, including downspouts, sprinklers, or faucets.

⚠ CAUTION: Ensure that snow does not accumulate around Power Lite.

1. Specifications

Power Lite Electrical Specifications

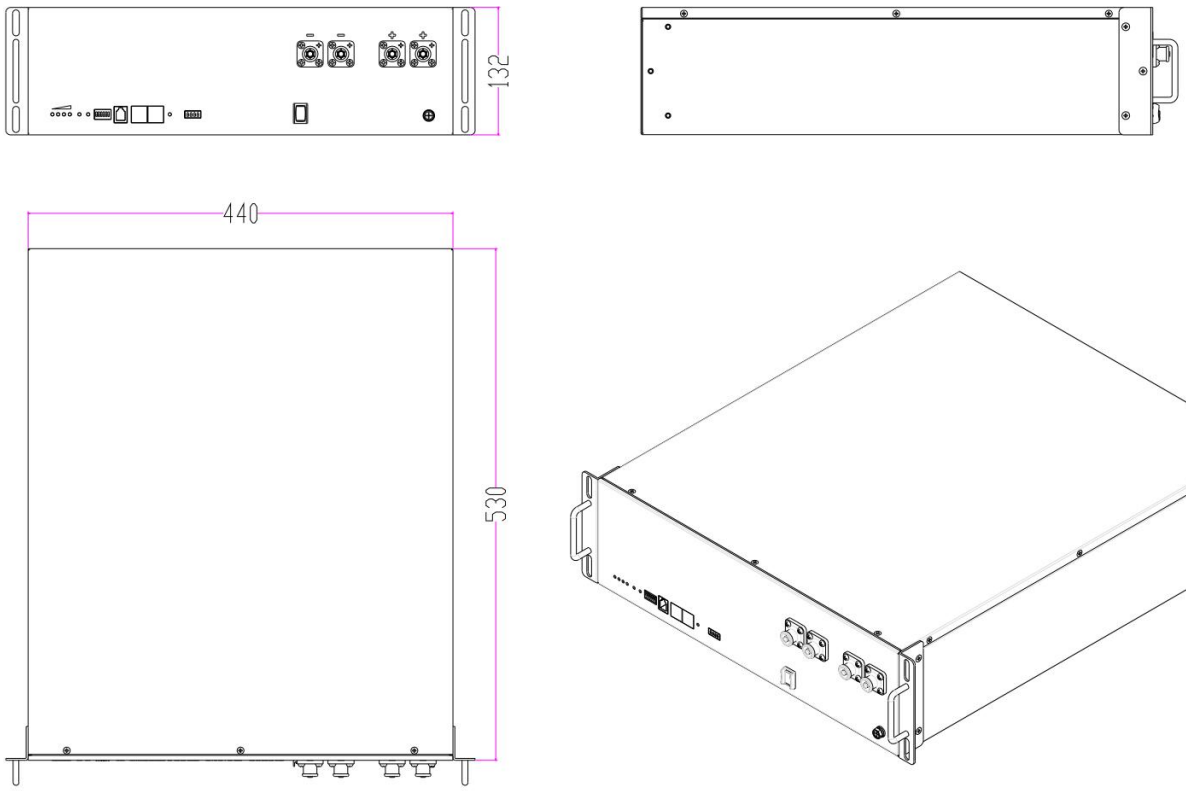


Fig. 1 Power Lite Dimension

NO.	Key Item	Specification	Remarks
1	Battery Model	CATL_LFP100 Ah	Cathode: Lithium iron Phosphate Anode：Graphite
2	Module Model	M026100-A 1P8S Module	2 Module In series
3	Nominal Capacity	100 Ah	
4	Nominal Voltage	51.2 V	Single cell voltage 3.2V
5	Operating Voltage Range	44.8V～57.6 V	
6	Rated Energy	5.12 kWh	Usable 5.12 kWh
7	Available SOC Range	0% ~ 100%	
8	SOC Transportation Range	40%	
9	Operating Temperature	Charging:：0~55 °C Discharging：-20～55 °C	Detailed use conditions need to refer to the charge and discharge window
10	Storage Temperature	-20 ~ 50 °C	Recommended at 25 °C
11	Working Humidity	20~80 %RH	
12	Standard Charging Current	0.5C (50A)	
13	Maximum Charging	0.5C (50A)	

	Continuous Current		
14	Standard Discharge Current	0.5C (50A)	Recommendation value
15	Max Discharge Continuous Current [1]	1C (100A)	(1C, 25±2 °C)
16	ΔVoltage	≤20mV	60 min after standing and stopped after charging and discharging
17	Weight	~43Kg	Actual weight requires weighing confirmation
18	Dimensions	Length：440±5 mm Width：530±5 mm Height：132±5 mm	

[1]: Refer to UZ ENERGY engineer to confirm the working condition

2. Site Requirements

Power Lite Physical Requirements

Power Lite can be installed horizontally or mounted on a floor or wall (using corresponding mounting accessories). In both types of installation, the ground or wall must be capable of supporting the full weight of Power Lite and its mounting hardware.

NOTE: The wall must extend to all edges of the system, allowing no access to the back of the unit once it is mounted.

Power Lite includes installation accessories that supports the unit in horizontal, floor- and wall-mount configurations. Do not use other hardware to anchor Power Lite to the wall or floor.

Installation Accessories

NOTE: The specification of the following parts can be found at link:
https://uzenergy.com/products/power-lite-series/

A. Horizontal Installation

Fig. 2 Pack Holder (H100)

B. Floor-mounting Installation

Fig 3 Floor-mounting parts (C100)

C. Wall-mounting Installation

Fig. 4 Wall-mounting parts (C300)

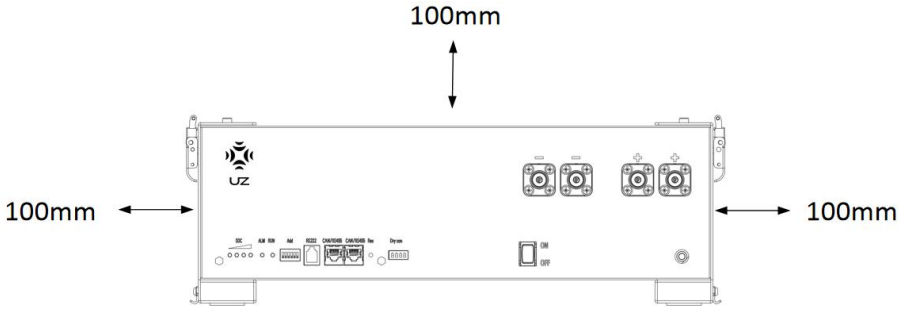
D. IP54 Case (Floor and Wall-mounting Installation)

Fig. 5 IP54 Case (P200)

Power Lite requires adequate clearance for installation, cabling and airflow. Do not place any other objects within the clearance space, except those explicitly required by the installation (e.g. conduit, a junction box, or an electrical disconnect depending on local installation codes). Do not install anything above Power Lite that limits access to the unit or that might fall and damage the unit. Do not mount Power Lite upside down.

Power Lite Installation Space Requirements

A. Horizontal Installation



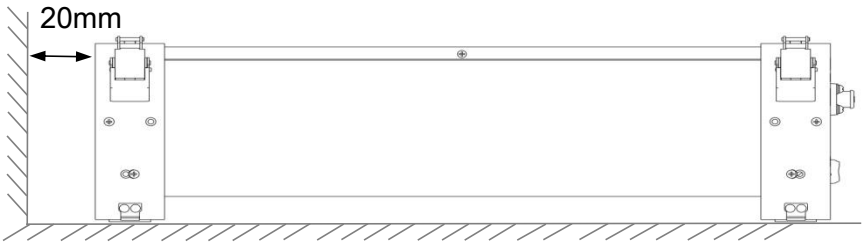
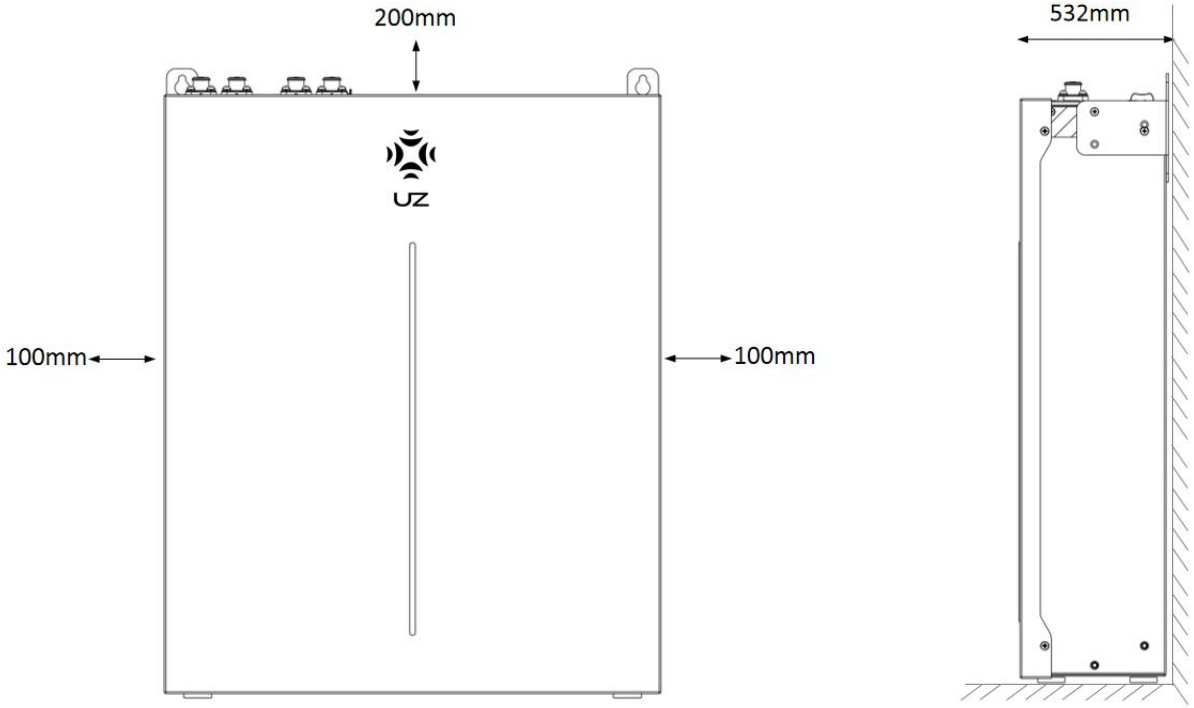


Fig. 5 Space Requirements Schematics

Space Requirements	
Min. clearance from left side	100 mm
Min. clearance from right side	100 mm
Min. clearance above single Power Lite	100 mm
Max. slope	+/- 2 degree side-to-side +/- 5 degree front-to-back

B. Floor-mounting Installation



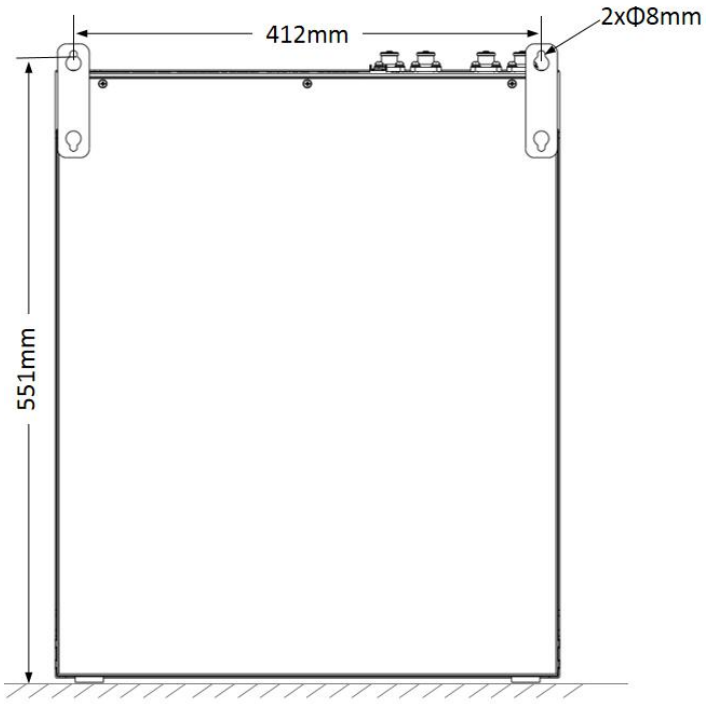


Fig. 6 Space Requirements Schematics

Space Requirements	
Min. clearance from left side	100 mm
Min. clearance from right side	100 mm
Min. clearance above single Power Lite	200 mm
Max. slope	+/- 2 degree side-to-side +/- 5 degree front-to-back

C. Wall-mounting Installation

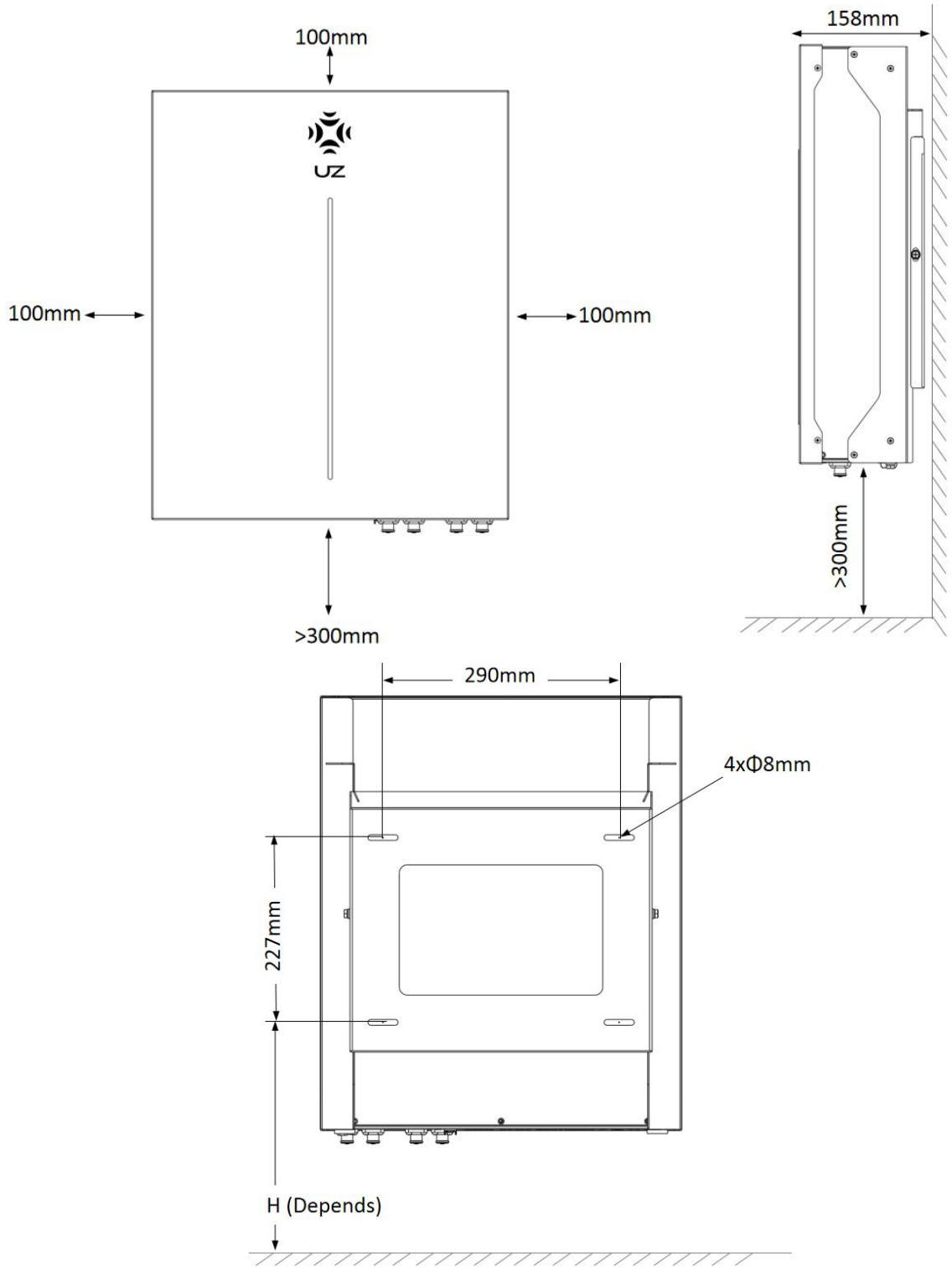


Fig. 7 Space Requirements Schematics

Space Requirements	
Min. clearance from left side	100 mm
Min. clearance from right side	100 mm
Min. clearance above single Power Lite	100 mm
Min. clearance at the bottom	300 mm
Max. slope	+/- 2 degree side-to-side +/- 5 degree front-to-back

D. IP54 Case (Floor and Wall-mounting Installation)

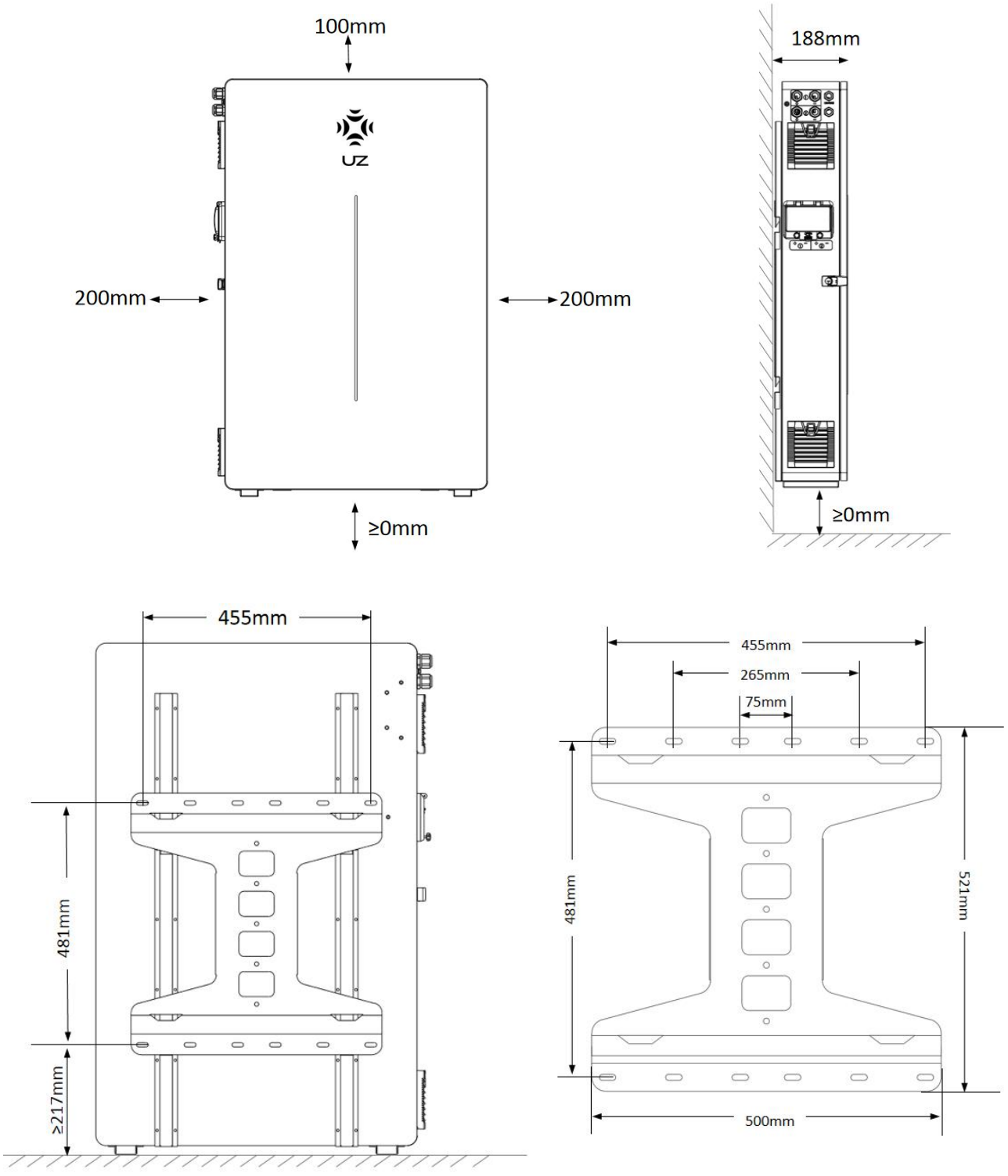


Fig. 8 Space Requirements Schematics

Space Requirements	
Min. clearance from left side	200 mm
Min. clearance from right side	200 mm
Min. clearance above single Power Lite	100 mm
Min. clearance at the bottom	⩾0 mm
Max. slope	+/- 2 degree side-to-side +/- 5 degree front-to-back

Power Lite Temperature Requirements

Power Lite is capable of charging and discharging within the full ambient temperature range listed in the Specifications section. At the high and low ends of the temperature range, Power Lite may limit charge or discharge power based on battery cell temperature to improve battery lifespan.

Installation in full sun raises the temperature inside the enclosure above ambient temperature. This temperature rise is not a safety risk, but may impact battery performance. To optimize performance, avoid installing Power Lite in locations that are exposed to the sun for extended periods.

Do not install Power Lite in locations with sustained high or low temperatures. The average ambient temperature over the system's life should be between 0 and 30 ℃.

Power Lite Installation Requirements

All installations must conform to the laws, regulations, codes, and standards applicable in the jurisdiction of installation.

3. Installation Components and Tools Instructions

Required Tools

- Personal protective equipment (safety glasses, gloves, protective footwear)
- Drill and drill bit for drilling pilot holes in mounting surface
- Torque screwdriver
- Large flathead driver bit (for ground bar)
- Small flathead screwdriver (for wiring connector spring terminals)
- Wire strippers/cutters for 0.2 mm^2 to 120 mm^2 wires
- Installation tools (level, stud sensor, tape measure, pencil, painter's tape, flashlight)
- Lift equipment capable of lifting and supporting 130 kg
- Ratcheting strap to secure Power Lite to lift equipment
- Digital camera or smart-phone for documenting the installation

⚠ WARNING: Power Lite is heavy. Wear appropriate personal protective equipment (such as gloves and protective footwear) when handling the unit. Only a sufficient number of the trained movers should lift Power Lite. Use of lift equipment is recommended.

Required Supplies

- Power Lite mounting bracket hardware
- Conduit fitting or cable gland (depending on local electrical requirements)
- Conduit or raceway (depending on local electrical requirements)
- Conduit adapter (if necessary for cable entry into Power Lite wiring compartment)

4. Installation Instructions

⚠ CAUTION: The Installation is only for indoor applications.

Step 1. Plan the installation Site

Choose a Location

If installing horizontally, choose a level surface capable of supporting the full weight of Power Lite.

If wall-mounting Power Lite, choose a wall capable of supporting the full weight of Power Lite, with one of the following characteristics:

- ✧ Wood studs at regular intervals
- ✧ Plywood sheeting of sufficient thickness
- ✧ Solid concrete or masonry
- ✧ Metal studs of sufficient gauge

If floor-mounting Power Lite, choose a level surface adjacent to a wall space that meets the above requirements.

Make sure the area is isolated from hazards that could damage Power Lite, such as vehicle traffic or flooding. Consider the spacing requirements for Power Lite.

Conduit or raceway

Calculate the amount and size of conduit or raceway needed for the installation, based on fill limits and local code requirements. With conduit, an adapter may be required between the entry into the Power Lite wiring compartment and the conduit.

Step 2. Installation

A. Horizontal Installation

This is the most standard way of installation. Using Pack Holder Accessories (H100) to install. The following image gives the indication of how it would be when single or multiple units are installed. The specification of the Pack Holder (H100) can be found at link (Click Spec. button): https://uzenergy.com/products/power-lite-series/

Pack Holder (H100)

Fig. 9 H100 Assembling Demo (Single Units and Multiple Units)

NOTE: it is not recommended to stacking more then4 units by using Pack Holder only.

B. Floor-mounting Installation

The specification of the Floor-mounting Accessories (C100) can be found at link (Click Spec. button): https://uzenergy.com/products/power-lite-series/

Fig.10 C100 Assembling Demo

C. Wall-mounting Installation

The specification of the Wall-mounting Accessories (C300) can be found at link (Click Spec. button): https://uzenergy.com/products/power-lite-series/

Fig. 11 C300 Assembling Demo

D. IP54 Case (Floor and Wall-mounting Installation)

The specification of the Wall-mounting Accessories (P200) can be found at link (Click Spec. button): https://uzenergy.com/products/power-lite-series/

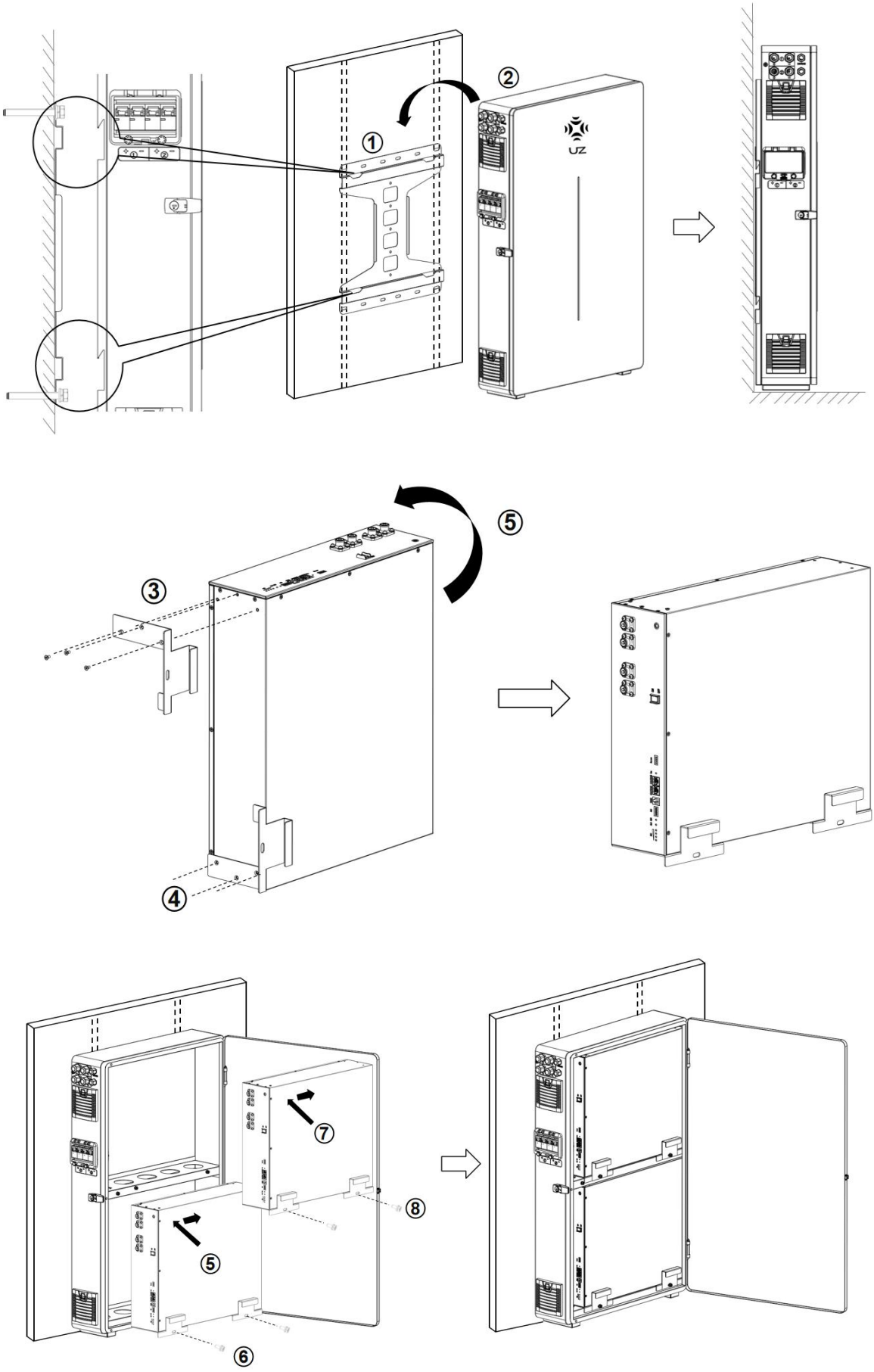


Fig. 12 P200 Assembling Demo

Step 3. Cable and Isolation Device Connection

Interface definition

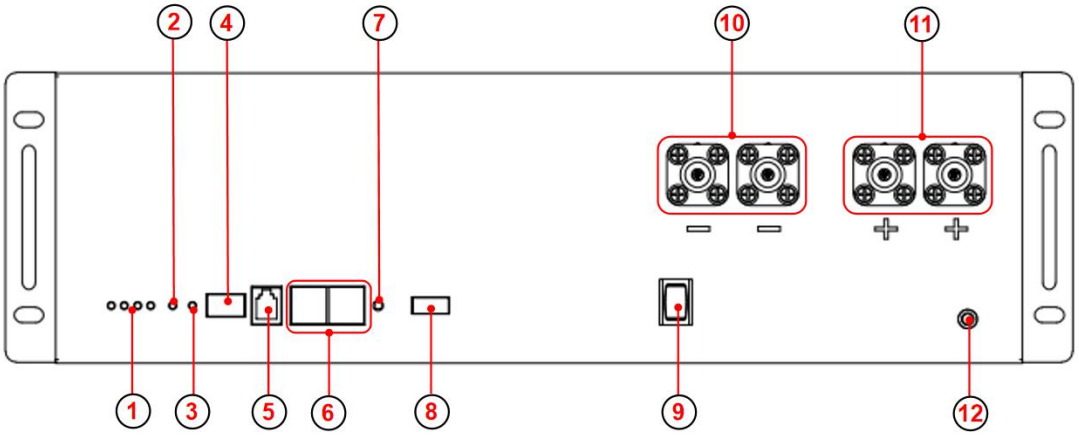


Fig. 13 Front Panel Interface

Item	Name	Model	Remarks
1	SOC LED x4		
2	Alarm LED		
3	RUN LED		
4	Dialer		
5	Communication port	RJ11	RS232 To upper machine
6	Communication port *2	RJ45	CAN To PCS RS485 Internal Connection
7	Reset		Waken system from malfunction status
8	Dry Contact		
9	Power On/Off Switch		
10	Port Negative x2	PSR6XAB	Black 5.7, 25 mm^2
11	Port Positive x2	PSR6XBB	Orange 5.7, 25mm^2
12	GND	M6	Yellow-Green, 10 AWG

RJ45 Port Definition

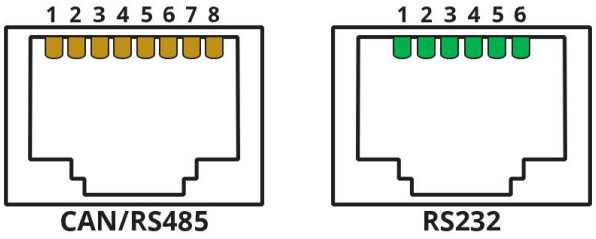


Fig. 14 RJ45 Port Interface

	Description
CAN	Pin 1: CAN-H Pin 5: CAN-L Pin 2, 3, 4, 6, 7: NC Pin 8: GND
RS485	Pin 1, 4, 5: NC Pin 2, 7: RS485-A Pin 3, 6: RS485-B Pin 8: GND
RS232	Pin 1, 2, 6: NC Pin 3: BMS transmit; Computer receiver Pin 4: BMS receiver; Computer transmit Pin 5: GND

Communication Cable Requirements

Cable Gauge	Strip Length	Maximum Cable Length
CAT5 or better (24 AWG)	RJ-45 connector	45 m

Power Cable Requirements

Size	Outer Diameter	Max. Voltage	Max. Current
21-33 mm²	10-12 mm	1000 V	120 A

DC Breaker Recommendation

The following circuit breaker models (purchased separately) are supported:

Circuit Breaker Model	Rating	Certificate
Nader NDB1-125	100 A	CCC, CE, CB, TUV, UL1077

NOTE: a DC Breaker is required for each positive and negative terminal connecting

A. Horizontal Installation

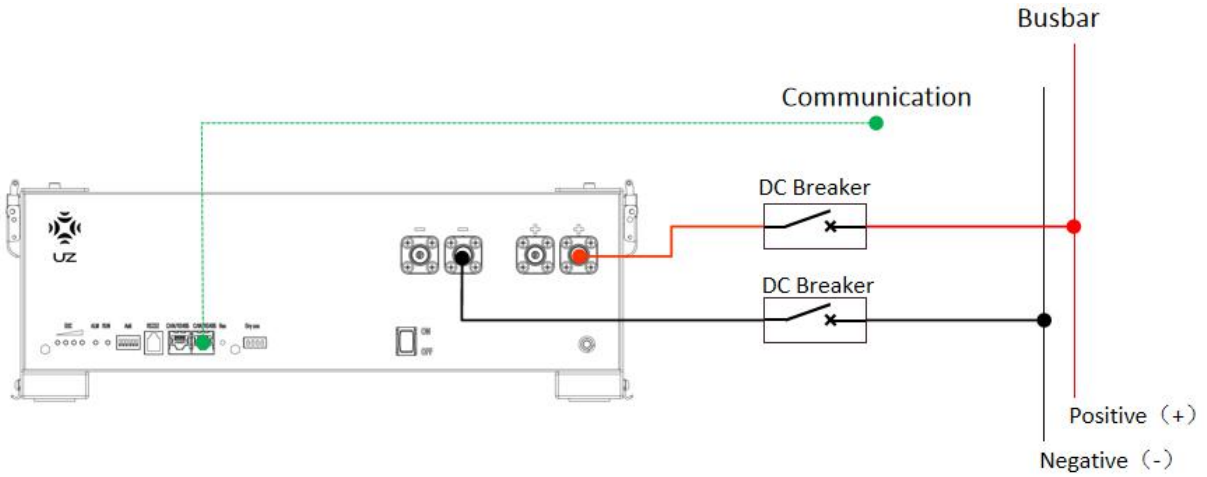


Fig. 15 Cable Connection Single Unit

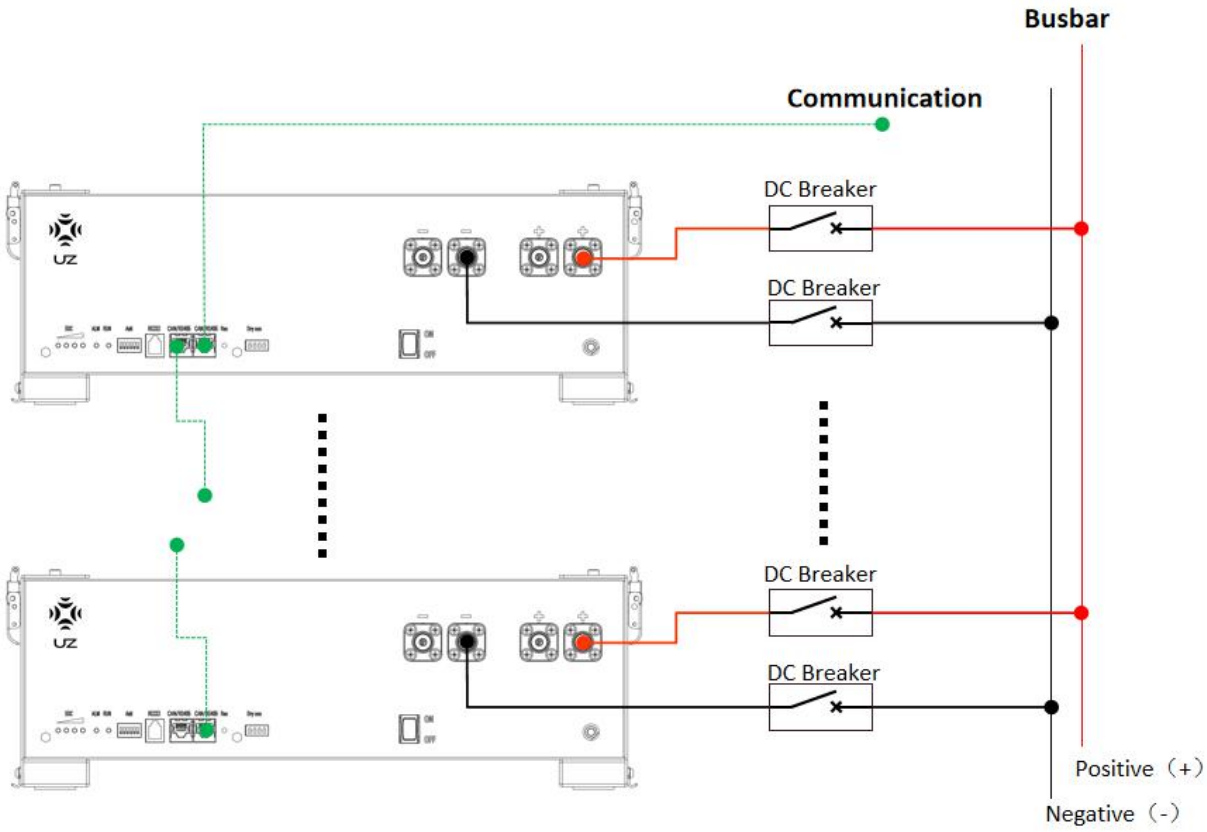


Fig. 16 Cable Connection Multiple Units

B. Floor-mounting Installation

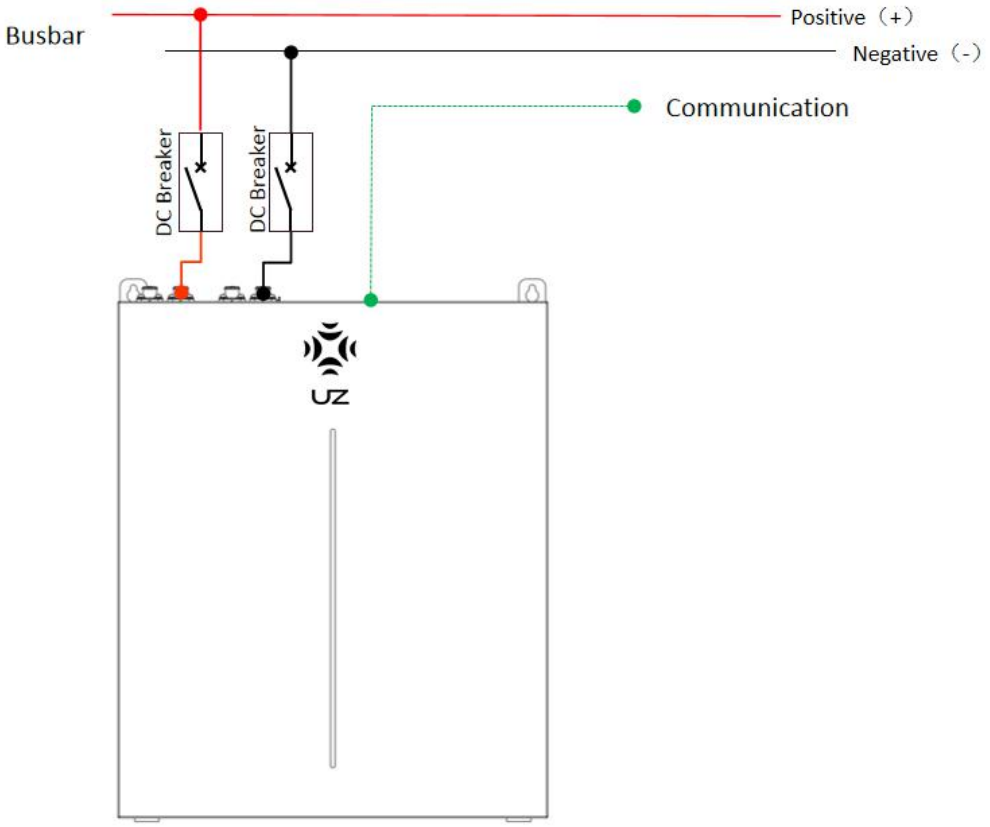


Fig. 17 Cable Connection Single Unit

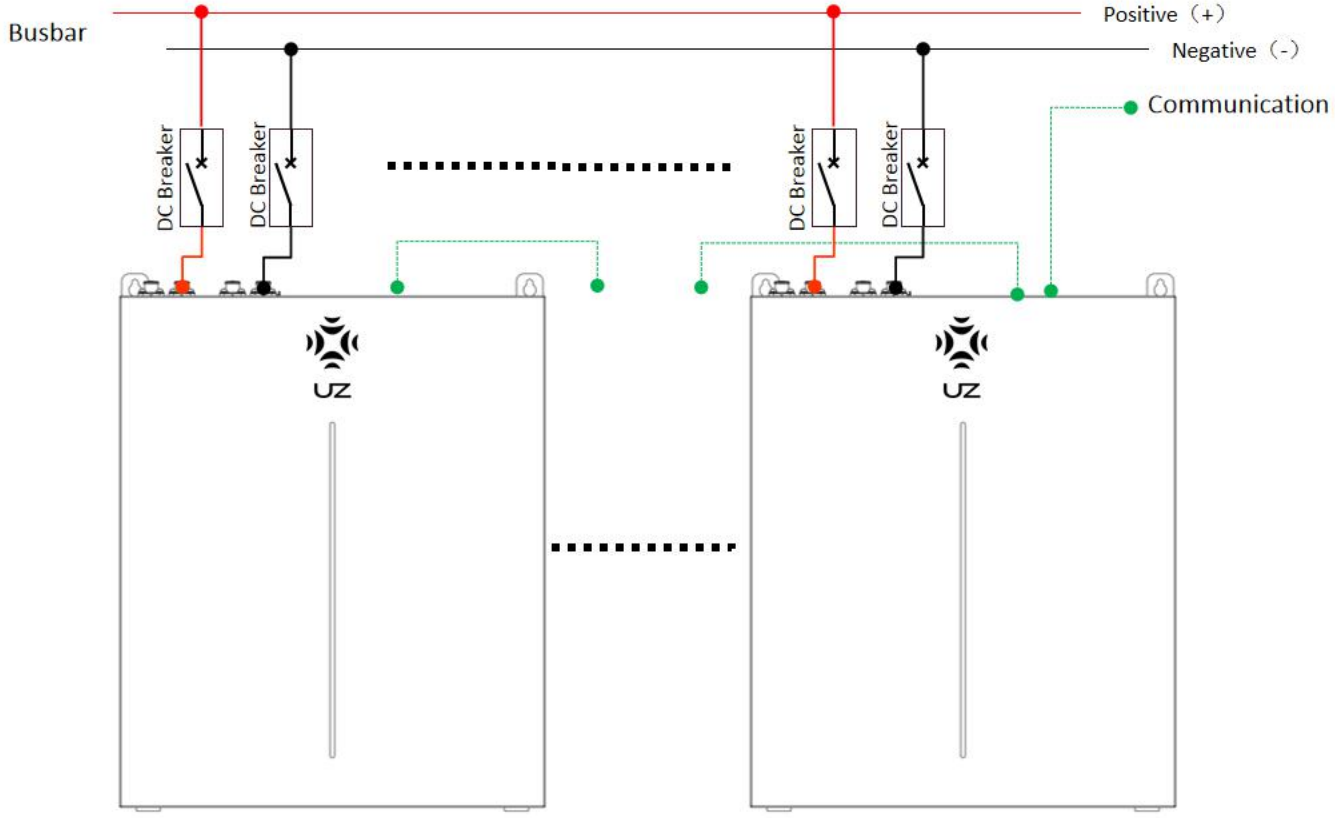


Fig. 18 Cable Connection Multiple Unit

C. Wall-mounting Installation

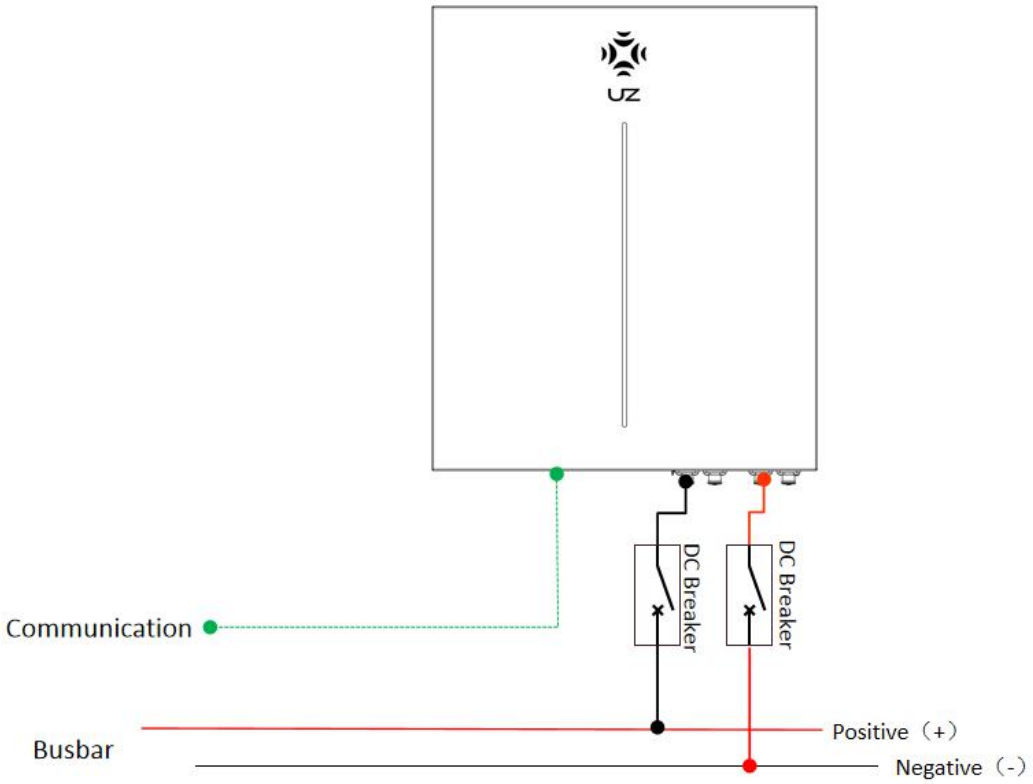


Fig. 19 Cable Connection Single Unit

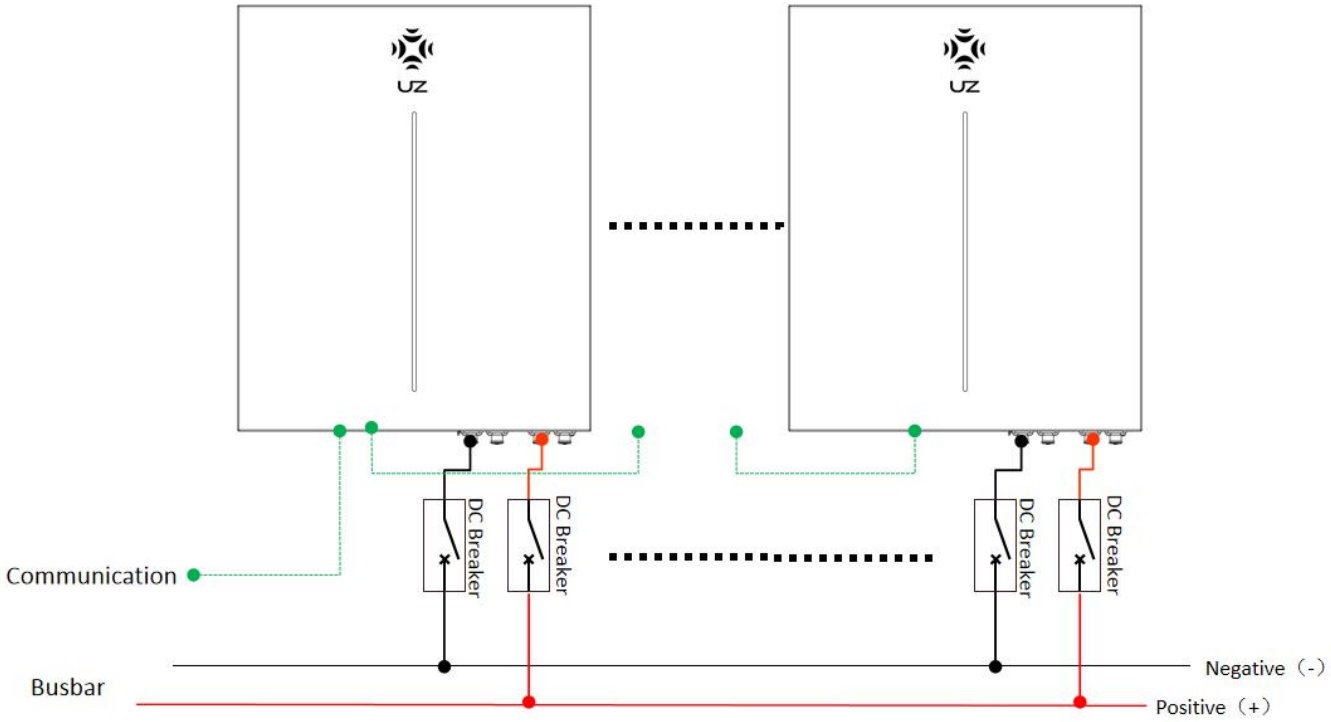


Fig. 20 Cable Connection Multiple Units

D. IP54 CASE(Floor and Wall-mounting Installation)

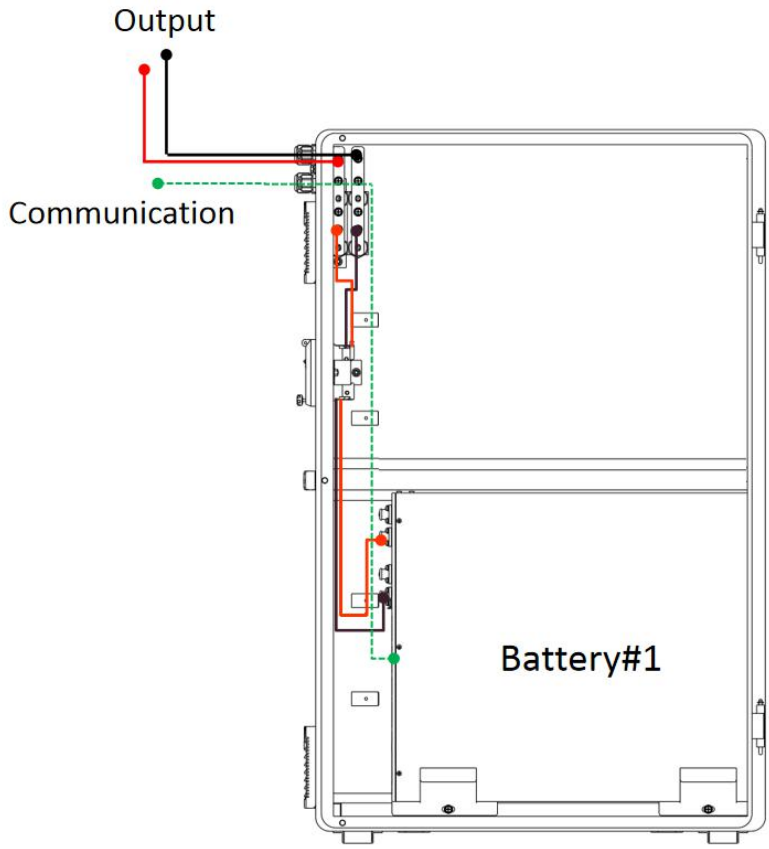


Fig. 21 Cable Connection Of PACK Internal(5KWh)

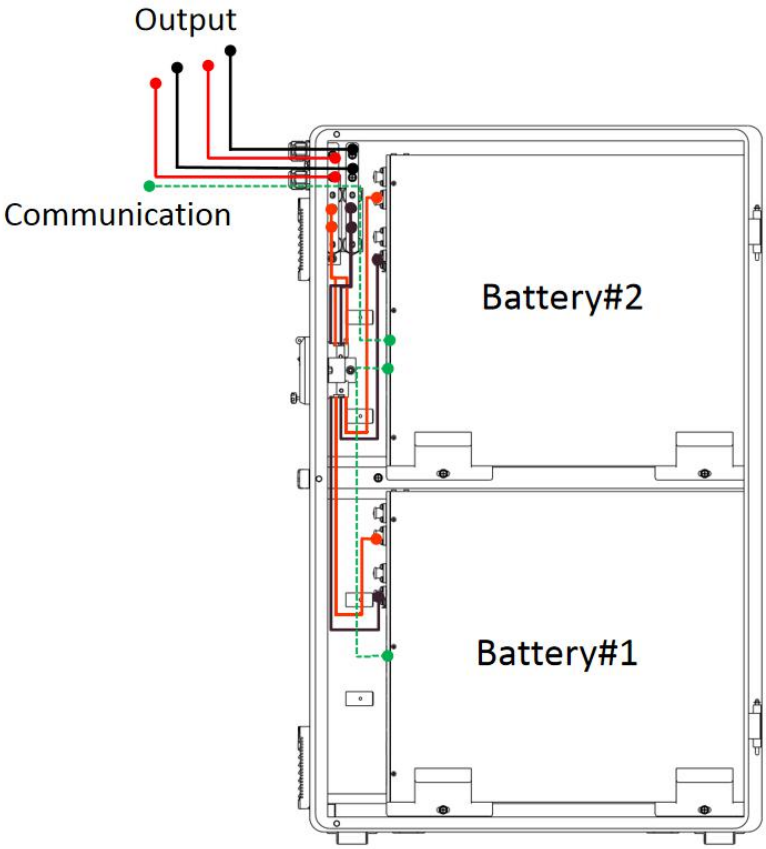


Fig. 22 Cable Connection Of PACK Internal(2*5KWh)

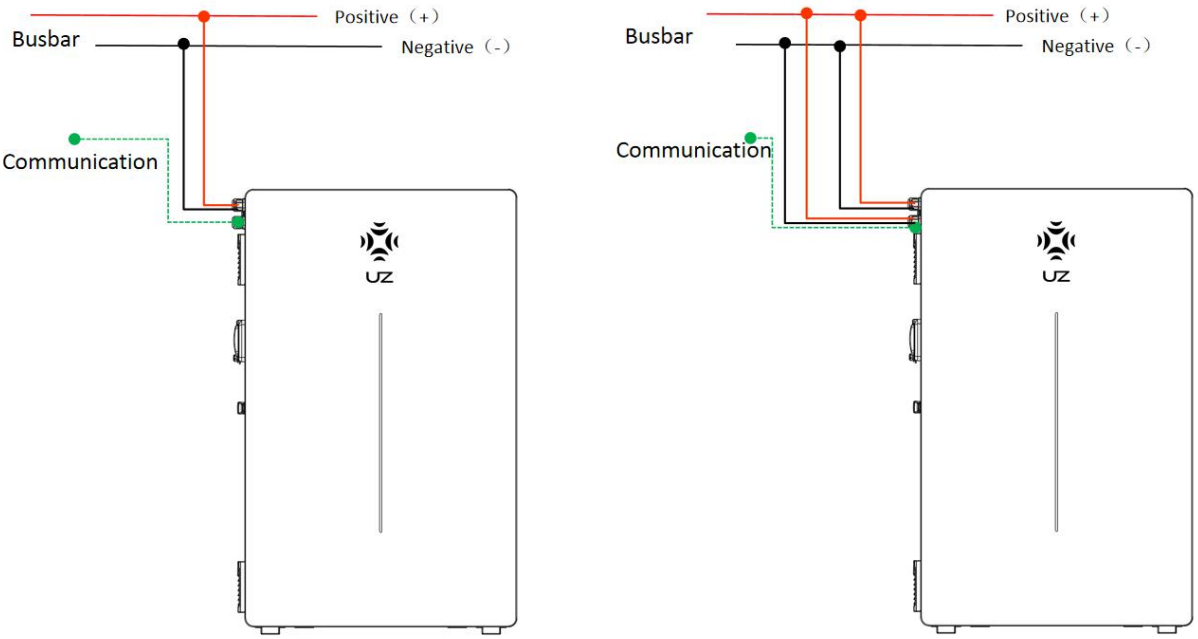


Fig. 23 Cable Connection Single Unit(5KWh/10KWh)

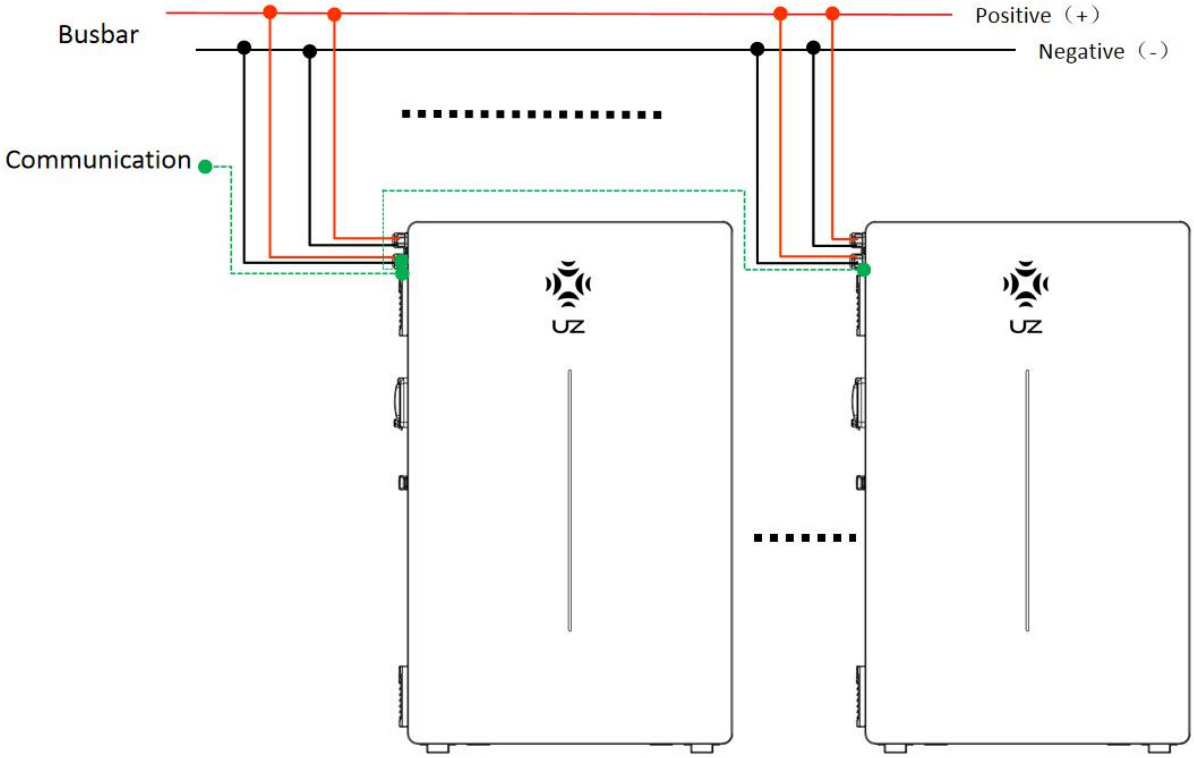


Fig. 24 Cable Connection Multiple Units

Step 4. Turn On the System

1. Arrange the communication/power wire properly.
2. Ensure that all conduit or cable gland junctions are properly dealed.
3. Switch on button on each Power Lite and then the external circuit breaker. When Power Lite establishes communication with the Inverter, the info shall be properly red from the

Inverter software or its screen.

Trouble shooting

If Power Lite is not working correctly, perform the following steps:

Check the status of the LED on the panel. The indication status can be referred in **Power Lite User's Manual** in battery package.

Technical Support

Further support can be achieved via UZ ENERGY Service Team. Please contact the sales person when needed. The following information is useful to have ready when contacting UZ ENERGY:

- ✧ Owner Name
- ✧ Power Lite part number and serial number
- ✧ Brief description of the issue

Maintenance

Power Lite does not require pre-scheduled preventative maintenance. The only maintenance required by an owner is to keep the unit free and clear of debris, especially around the air intake and exhaust.

To clean Power Lite, use a soft, lint-free cloth. If needed, the cloth can be dampened with mild soap and water only. Do not use cleaning solvents to clean Power Lite, or expose Power Lite to flammable or harsh chemicals or vapors.