B5000

Battery Energy Storage System

User Manual V1.4

Please read this manual before use and follow its guidance.
Keep this manual for future reference.

BLUETTI

Thank You!

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From the very beginning, BLUETTI has tried to stay true to a sustainable future through green energy storage solutions for both indoor and outdoor use while delivering an exceptional eco-friendly experience for our homes and our world. That's why BLUETTI makes its presence in 100+ countries and is trusted by millions of customers across the globe.

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If you have any questions or concerns about this manual, please contact BLUETTI support for further assistance.

Shenzhen PowerOak Newener Co., Ltd.

F19, BLD No.1, Kaidaer, Tongsha RD No.168, Xili street, Nanshan, Shenzhen, China

Web: https://www.bluettipower.com

About the Manual

Overview

This user manual describes the installation, electrical connection, commissioning, maintenance and troubleshooting of B5000 Battery Energy Storage System (BESS).

Please read and understand all instructions in this manual before use.

Target Audience

Installation, operation and maintenance technicians

Symbol Conventions

This manual uses the following symbols to highlight important information:

	**Danger** It indicates a hazardous situation which, if not avoided, will result in death or serious injury.
	**Warning** It indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	**Caution** It indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
	**Attention** It indicates a potentially hazardous situation which, if not avoided, could cause substantial damage to property and the environment.
	**Instruction** It is used to address information not related to personal injury, equipment damage, and environmental deterioration.

Contents

1. Safety Guideline

1.1 Safety Instructions

Warning

- Do not insert foreign objects into any ports of the equipment.
- Keep the equipment out of reach of children.
- Use a dry powder fire extinguisher if the equipment catches fire.
- Use genuine cables and accessories provided by BLUETTI. BLUETTI is not liable for any damage caused by using third-party equipment.

Instruction

The safety guidelines provided herein serve as reference and may not encompass all necessary precautions. Always consider the actual on-site conditions when using this equipment.

1.1.1 General Requirements

Read all instructions before use.

- The installation, commissioning, and maintenance should only be performed by qualified professionals or trained personnel. Improper use, installation, or operation may cause series injury or property damage.
- Do not place the equipment near heat sources or in high temperatures.
- Do not store the equipment with flammable liquids, gases, or explosive materials.
- Maintain a well-ventilated and spacious operating area.
- Do not block or cover the vents of the equipment to avoid irrepressible damage.
- Do not stack anything on top of the B700 battery during storage or use, except for the HV800 battery controller.
- Do not move the equipment during operation as the vibrations and shocks associated with movement may cause damage to the internal hardware.
- In case of malfunction, turn off the equipment immediately and contact BLUETTI support or your local BLUETTI dealers if this manual cannot adequately explain the malfunction to you.
- Do not place the equipment on an unstable or inclined surface.
- Keep out of reach of children and pets.

1.1.2 Battery Safety

- Use the battery within the temperature range specified in this manual.
- Do not expose the battery to high temperatures or around heat sources, such as sunlight, fire, transformers, and heaters. If the battery overheats, it may cause a fire.
- Do not expose the battery to humidity or corrosive environments, as this may cause the battery to rust, corrode, and leak chemicals.
- Do not disassemble, modify, or damage the battery to prevent leakage, overheating, or fire. For example, do not insert foreign objects into the battery or place the battery in water or other liquids.
- Handle the battery with care. Do not turn it upside down or tilt it to protect it from shocks.
- Pay attention to the status indicators on the battery and related products.
- Prevent short circuits on the battery terminals to avoid fire.
- Improper use or misuse of damaged batteries or components can damage your device or injure yourself as a result of battery fluid leakage, fire, overheating, or explosion.
- Store damaged batteries away from flammable materials and undamaged ones. Only professionals should handle damaged batteries.
- Avoid welding or grinding near batteries to prevent fire from sparks or arcs.
- Lithium-ion batteries pose a high fire risk. Be aware of the following safety risks:
  a. Thermal runaway can release flammable and harmful gases such as CO and HF. Vapors from burning batteries may irritate the eyes, skin, and throat.
  b. Flammable gas concentration from thermal runaway batteries can cause deflagration and explosion.
  c. Battery electrolyte is flammable, toxic, and volatile.
- If a battery leaks or emits odors, don't approach it — contact professionals for safe disposal. Use protective gear like goggles, rubber gloves, gas masks, and protective clothing.
- Do not touch a battery if any parts have been submerged in water to avoid electric shocks.
- Do not use batteries soaked in water. Dispose of them through proper recycling channels.
- Electrolyte is corrosive and can cause irritation and chemical burns. If you come into direct contact with battery electrolyte, follow these instructions:
  a. Inhalation of Vapors: Evacuate the contaminated area, get fresh air immediately, and seek medical attention immediately.

b. Eye Contact: Immediately flush eyes with water for at least 15 minutes, do not rub eyes, and seek medic al attention immediately.

c. Skin Contact: Immediately wash the infected area with soap and water and seek medical attention immediately.

d. Ingestion: Seek medical attention immediately.

1.1.3 Maintenance Requirements

- Before use, ensure a reliable grounding connection for personal safety and proper equipment function.
- Wear personal protective equipment (PPE) during operation. Stop operation immediately and take precautions if there's a risk of personal injury or equipment damage.
- Use tools correctly to avoid personal injury or damage to equipment.
- Never touch energized components.
- Do not use water to clean electrical parts inside or outside the cabinet.
- Do not lean on or sit on top of the equipment.
- Do not damage the equipment modules.
- When the battery fails, avoid touching the battery and be careful of high temperature.
- Do not disassemble or damage the battery. The released electrolyte is harmful to your skin and eyes. Avoid contact with electrolyte.
- Incorrect battery installation can cause electric shock. Follow these guidelines when using the batteries:

  a. Remove any metal objects like watches and rings from yourself.

  b. Use tools with insulated handles.

  c. Wear rubber gloves and boots.

  d. Prevent metal objects or conductive liquids from contacting the battery terminals or enclosures.

  e. Do not place tools or metal parts on top of the battery.

  f. Always power off the HV800 battery controller and switch off the circuit breaker before connecting or disconnecting B700 battery terminals.

1.1.4 Battery Installation Requirements

- Inspect the packaging for damage before installing the B5000 battery energy storage system. Do not use B700 batteries with compromised packaging. Make sure the circuit breaker switch of the HV800 battery controller is in the OFF position.

- Tighten the screws correctly and securely with the wrench and conduct regular checks.
- Ensure there is no short circuit between the positive and negative terminals of the B5000 system. Prevent the positive and negative terminals of the system from touching other metal objects to avoid heat generation or electrolyte leakage.
- After installing the equipment, remove unused packing materials such as foam, carton, plastic, and excess cables from the equipment area.

Fire Emergency Measures

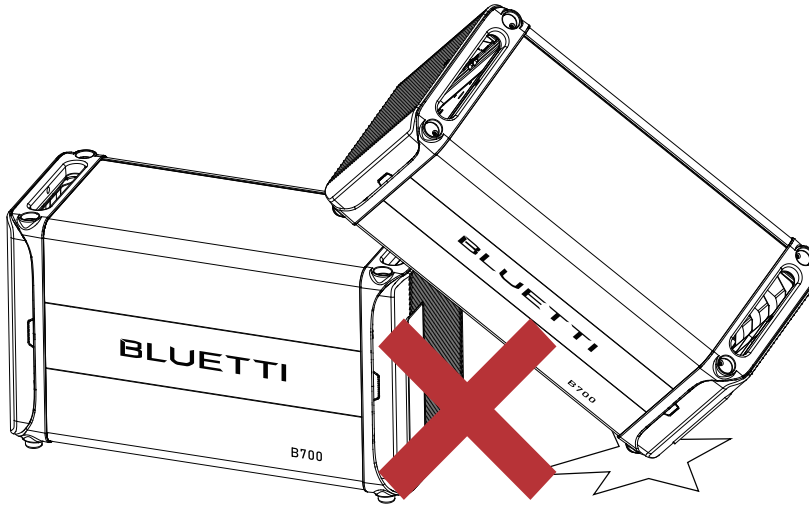
Danger

- In case of fire, power off the system if it is safe to do so.
- Use carbon dioxide, FM-200, or ABC dry powder fire extinguisher.
- Remind firefighters to avoid contact with components carrying dangerous voltage to prevent the risk of electric shock.
- Overheating may cause the battery to deform and leak corrosive electrolytes or toxic gas. Keep away from batteries to avoid skin irritation and chemical burns.

Battery Drop Emergency Measures

Danger

- If the battery pack is dropped, violently impacted or tilted during installation, internal damage may occur. So do not use such battery packs to avoid safety risks such as battery leakage and electric shock.
- If the dropped battery is not obviously deformed or damaged, and there is no abnormal smell, smoke or fire, please contact a professional to transfer the battery to an open and safe place, and contact BLUETTI support.
- If the battery is obviously damaged or there is an abnormal smell, smoke or fire, please evacuate immediately, and contact a professional or BLUETTI support. Professionals can use fire extinguishing facilities to extinguish the fire under safety protection.



1.1.5 Statement

BLUETTI shall not be liable for equipment abnormality, component damage, personal injury, property loss, or other damage caused by the following reasons:

- Failure to promptly charge the battery after installation and system connection, leading to overdischarge and subsequent damage.
- Frequent overdischarge of the battery due to poor maintenance, improper capacity expansion (e.g., mixing old and new batteries), or prolonged periods of incomplete charging.
- Inadequate maintenance as instructed in the user manual, including irregular charging and checking of battery terminals.
- Failure to charge the battery as required in the user manual during storage, resulting in capacity loss or irreparable damage.
- Improper operation or incorrect connections causing battery short circuits, damage, drops, or leaks.
- Using the battery in ways not specified in the user manual, such as using batteries from other brands or those with different rated capacities, whether by users or third parties.
- The battery's actual operating temperature being too high or too low, or the external power supply parameters not meeting requirements, results in battery damage.

1.2 Installation Requirements

Attention

Avoid working with live electrical components.

- Use a tester to check for the presence of dangerous voltage before touching any conductor or metal terminals to prevent the risk of electric shock.
- After installing the equipment, remove unused packing materials such as foam, carton, plastic, and excess cables from the equipment area.
- Keep people other than the installers away from the battery energy storage system.
- Handle the equipment and accessories carefully during transport; use original or protective packaging.
- Seal wiring ports securely with fireproof and waterproof materials.
- Do not alter, damage, or cover equipment labels or nameplates.
- When installing, use appropriate tools to tighten the screws.
- Secure the equipment firmly to the floor or other stable objects, such as walls or mounting brackets before operation.
- Do not clean the equipment or any electrical components with water.
- Do not make any changes to the equipment's structure, installation sequence, or any other aspects without permission.

1.2.1 Personal Requirements

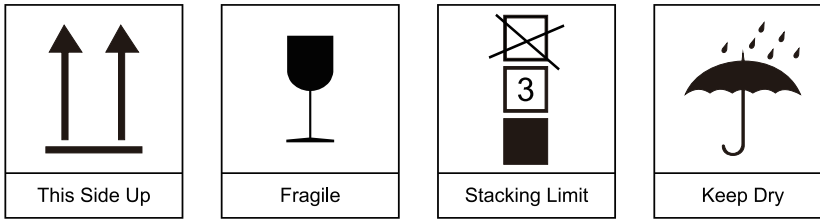
Only qualified and authorized personnel should perform installation, commissioning, and maintenance, adhering to proper safety precautions and operating practices.

- Personnel responsible for installation and maintenance must have undergone professional training. They should be well-versed in the safety guidelines and proper operating procedures.
- These individuals should have received the necessary technical training. They must be capable of recognizing potential risks during operation and promptly taking measures to minimize personal hazards.
- Only authorized professionals are allowed to replace equipment or components, including firmware update.

1.3 Transportation Requirements

All components of the B5000 battery energy storage system leave the factory in optimum electrical and mechanical state. It's necessary to use original or appropriate packaging to ensure the product safety during transportation. When you receive the product, inspect for any kind of damage and note the damage on the delivery receipt. The shipping company will be responsible for any damage or loss of the product during transportation. If necessary, please contact us for further assistance.

1.4 Label Description



Tampering with or damaging the following information is strictly prohibited:

- Symbols on the box containing important information for safe operation.
- The nameplate on the side of the box containing important parameter information related to the product.

1.5 Storage Requirements

Charge the system to 40%-60% SoC before storage.

- In order to keep the battery healthy, fully charge and discharge the system every 6 months.
- Store the system in a well-ventilated and spacious area.
- Do not store the system in flammable or explosive materials or gases.
- Clean the surface monthly with a dry, soft cloth.
- Keep the system out of reach of children and pets.
- Avoid exposing the equipment to rain, humidity, or direct sunlight.
- For details of storage temperature, please refer to Chapter 6. Specifications.

2. B5000 Battery Energy Storage System

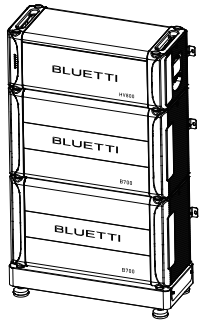
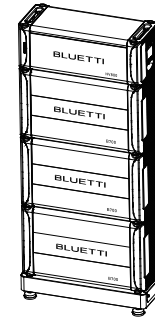
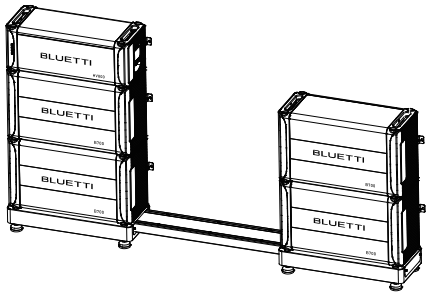
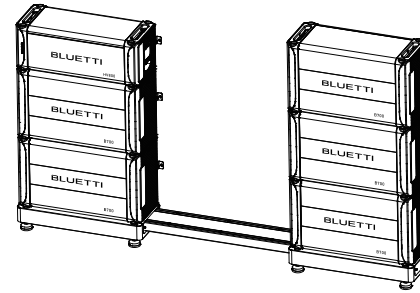
2.1 Introduction

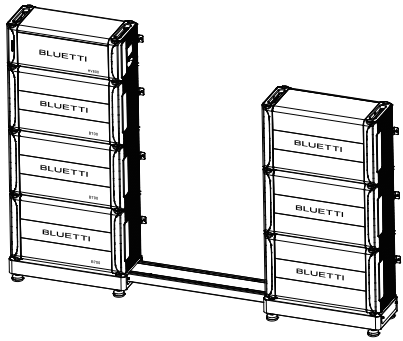
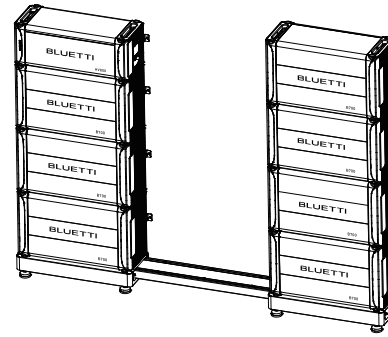
The B5000 battery energy storage system (BESS) is designed for homes and small businesses. It includes an HV800 battery controller and 2-7 B700 battery packs connected in series, each with a capacity of 7,37 kWh.

As the control module, the HV800 monitors real-time voltage, current, and temperature for each B700 battery pack during charging and discharging. It also provides protection against overvoltage, undervoltage, overcurrent, overtemperature, and undertemperature, ensuring exceptional safety and stability.

2.2 System Configuration

Choose from the following setups, which range from 2 to 7 B700 battery packs:

	
B5000-2S	B5000-3S
	
B5000-4S	B5000-5S

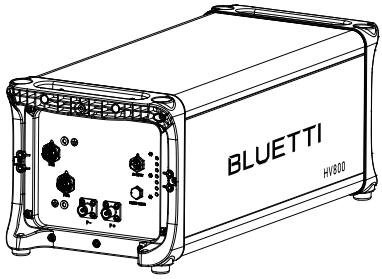
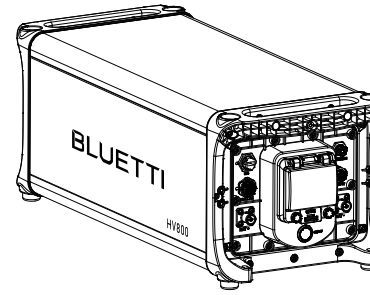
	
B5000-6S	B5000-7S

Each setup corresponds to the number of B700 battery packs employed, providing scalability and efficiency for residential and small business applications.

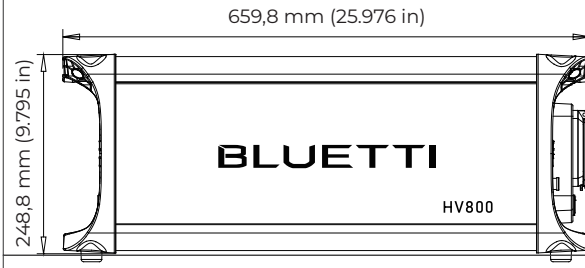
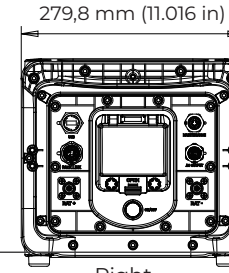
2.3 Overview

2.3.1 HV800 Battery Controller

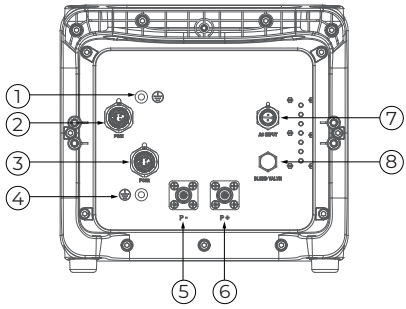
Appearance

	
Left	Right

Dimensions

	
Front	Right

Interfaces



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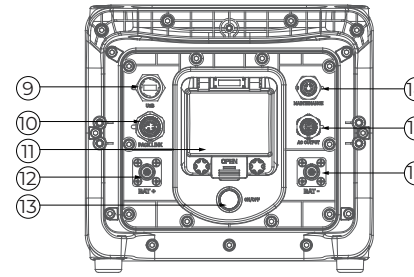
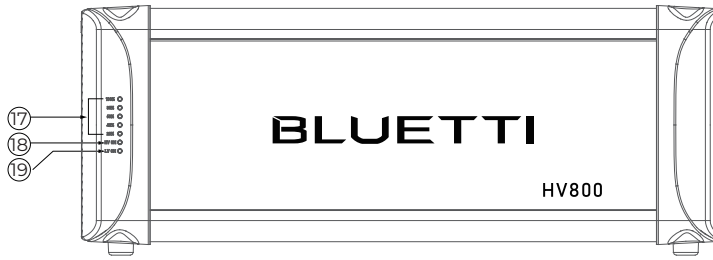


Right

No.	Name	Decisive Voltage Classification	No.	Name	Decisive Voltage Classification
1	Grounding Terminal 1	Not applicable	9	Reserved Port	DVC-B
2	EP2000 COM Port	DVC-A	10	Battery Signal Port	DVC-B
3	Third-party Inverter COM Port	DVC-A	11	Circuit Breaker	Not applicable
4	Grounding Terminal 2	Not applicable	12	BAT+ Terminal	DVC-C
5	Negative Terminal (To PCS)	DVC-C	13	Power Button	Not applicable
6	Positive Terminal (To PCS)	DVC-C	14	Reserved Port	DVC-B
7	AC Input (To PCS)	DVC-C	15	AC Output (To Battery)	DVC-C
8	Bleed Valve	Not applicable	16	BAT- Terminal	DVC-C

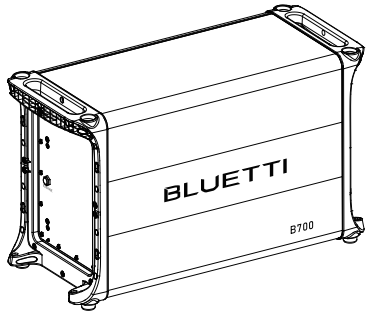


Front

No.	Name
17	SoC Indicators
18	High Voltage Power-on Indicator
19	Low Voltage Power-on Indicator

2.3.2 B700 Battery

Appearance



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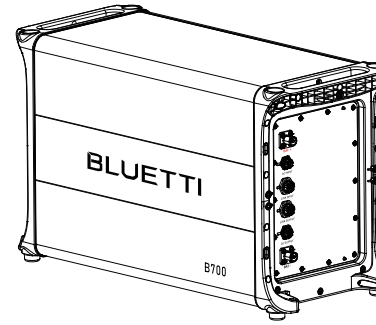

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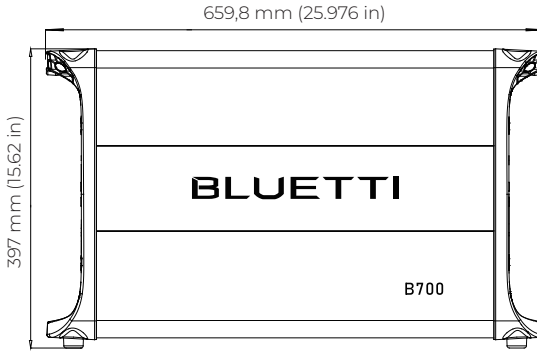
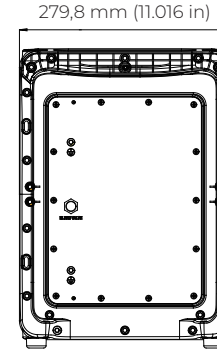
Dimensions



Front



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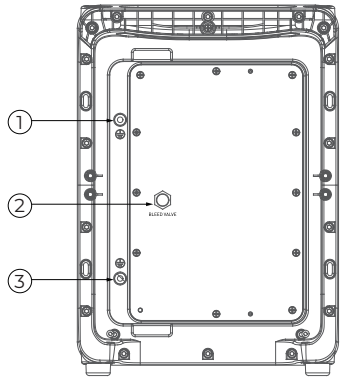
Interfaces



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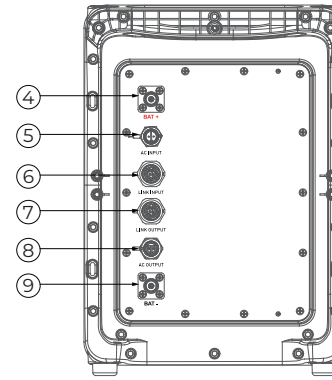
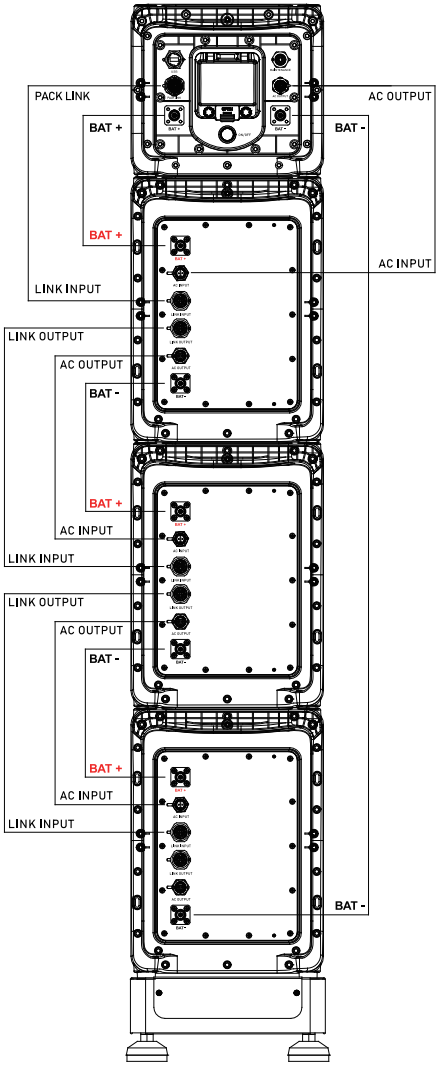


Right

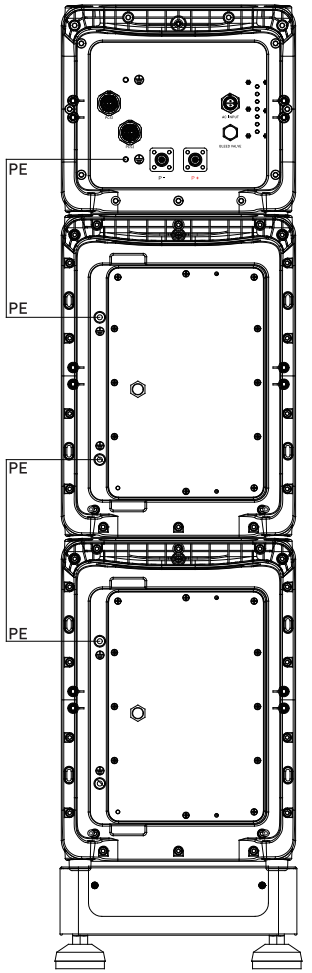
No.	Name	Decisive Voltage Classification	No.	Name	Decisive Voltage Classification
1	Grounding Terminal 1	Not applicable	4	BAT+ Terminal	DVC-C
2	Bleed Valve	Not applicable	5	AC Input	DVC-C
3	Grounding Terminal 2	Not applicable	6	Pack LINK INPUT	DVC-B
			7	Pack LINK OUTPUT	DVC-B
			8	AC Output	DVC-C
			9	BAT- Terminal	DVC-C

2.4 Electrical Connection

The electrical connections are similar across the B5000-2S to B5000-7S systems. Here's the diagram using the B5000-2S system as an example:



Interface	Description
HV800 Battery Signal Port (PACK LINK)	For communication between the HV800 and battery packs. Connect to the LINK INPUT port of the top B700.
HV800 Positive Terminal (BAT+)	For communication between the HV800 and the battery pack. Connect to the BAT+ port of the top B700.
Battery Positive Terminal (BAT+)	For communication between modules. Connect to the BAT- port of the upper battery when multiple B700s are stacked (except for the top B700).
Battery Signal Input Port (LINK INPUT)	For communication between modules. Connect to the LINK OUTPUT port of the upper battery when multiple B700s are stacked (except for the top B700).
Battery Signal Output Port (LINK OUTPUT)	For communication between battery packs. Connect to the LINK INPUT port of the lower battery when multiple B700s are stacked (except for the bottom B700).
AC Input Port (AC INPUT)	For communication between modules. Connect to the AC OUTPUT port of the upper module.
AC Output Port (AC OUTPUT)	For communication between modules. Connect to the AC INPUT port of the lower battery when multiple B700s are stacked (except for the bottom B700).
HV800 Negative Terminal (BAT-)	Connect to the BAT- port of the bottom B700. For B5000-4S to B5000-7S, connect to the BAT- port of the bottom B700 in the stack without HV800.
Battery Negative Terminal (BAT-)	For communication between modules. Connect to the BAT+ port of the lower battery when multiple B700s are stacked, except for the bottom B700, which connects to the BAT- port of the HV800.



Interface	Description
HV800 Signal Output Port (PCS1)	For communication between the HV800 and the inverter. Connect to the COM1 port of the inverter.
HV800 Output Negative (P-)	For communication between the HV800 and the inverter. Connect to the BAT- port of the inverter.
HV800 Output Positive (P+)	For communication between the HV800 and the inverter. Connect to the BAT+ port of the inverter.

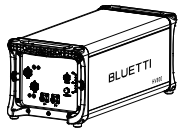
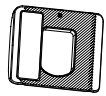
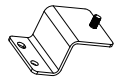
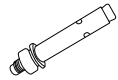
3. System Installation

Check all accessories before installation. Refer to Chapters 3.1, 3.2, and 3.3 for details.

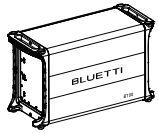
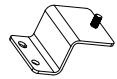
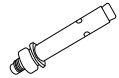
B5000 Combo	Number of HV800 Accessory Sets	Number of B700 Accessory Sets	Number of Accessory Sets*
B5000-2S	1	2	1
B5000-3S	1	3	1
B5000-4S	1	4	1
B5000-5S	1	5	1
B5000-6S	1	6	1
B5000-7S	1	7	1

* Refer to Chapter 3.3 for the specific accessory list for each system.

3.1 HV800 Packing List

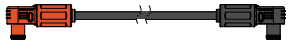
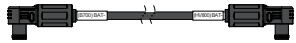
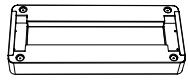
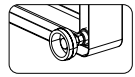
No.	Picture	Description	Qty.
1		HV800 battery controller	1
2		Left cover	1
3		Right cover	1
4		Bracket #1	2
5		Bracket #2	2
6		M4*10 screw (for covers)	2
7		M5*12 screw (for bracket #1)	4
8		M8*60 expansion bolt (for bracket #2)	2
9		M5 hexagon flange nut (for brackets)	2
10		M6*14 screw (for grounding cable)	2
11		Spare screw kit	1

3.2 B700 Packing List

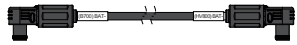
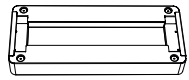
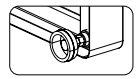
No.	Picture	Description	Qty.
1		B700 battery pack	1
2		Bracket #1	2
3		Bracket #2	2
4		M5 hex nut	2
5		Left cover	1
6		Right cover	1
7		M4*10 screw	2
8		M5*12 screw	4
9		M8*60 expansion bolt (for wall mounting)	2
10		M6*14 screw (for grounding cable)	2
11		Spare screw kit	1

3.3 B5000 BESS Packing List

3.3.1 B5000-2S

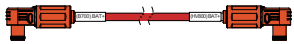
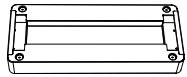
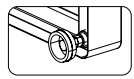
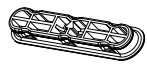
No.	Picture	Description	Qty.
1		Power cable (for battery connection)	1
2		Communication cable	2
3		AC power cable	2
4		Grounding cable	2
5		Power cable (negative, B700 to HV800)	1
6		Power cable (positive, B700 to HV800)	1
7		Base	1
8		Leveling foot	4

3.3.2 B5000-3S

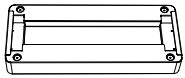
No.	Picture	Description	Qty.
1		Power cable (for battery connection)	2
2		Communication cable	3
3		AC power cable	3
4		Grounding cable	3
5		Power cable (negative, B700 to HV800)	1
6		Power cable (positive, B700 to HV800)	1
7		Base	1
8		Leveling foot	4

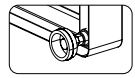
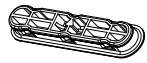
3.3.3 B5000-4S

No.	Picture	Description	Qty.
1		Power cable (for battery connection)	2
2		Communication cable	3
3		AC power cable	3

No.	Picture	Description	Qty.
4		Grounding cable	3
5		Power cable (for connecting 2 battery stacks)	1
6		Power cable (negative, B700 to HV800)	1
7		Communication cable (for connecting 2 battery stacks)	1
8		AC power cable (for connecting 2 battery stacks)	1
9		Grounding cable (for connecting 2 battery stacks)	1
10		Power cable (positive, B700 to HV800)	1
11		Base	2
12		Cable trough	1
13		Leveling foot	8
14		M4*10 screw (for attaching the base to the cable trough)	4
15		Handle seal strip	2

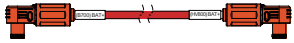
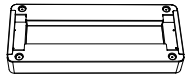
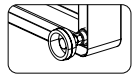
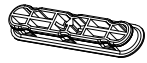
3.3.4 B5000-5S

No.	Picture	Description	Qty.
1		Power cable (for battery connection)	3
2		Communication cable	4
3		AC power cable	4
4		Grounding cable	4
5		Power cable (for connecting 2 battery stacks)	1
6		Power cable (negative, B700 to HV800)	1
7		Communication cable (for connecting 2 battery stacks)	1
8		AC power cable (for connecting 2 battery stacks)	1
9		Grounding cable (for connecting 2 battery stacks)	1
10		Power cable (positive, B700 to HV800)	1
11		Base	2
12		Cable trough	1

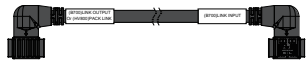
No.	Picture	Description	Qty.
13		Leveling foot	8
14		M4*10 screw (for attaching the base to the cable trough)	4
15		Handle seal strip	2

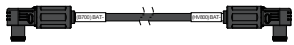
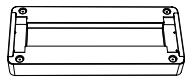
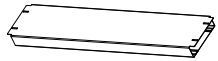
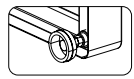
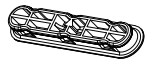
3.3.5 B5000-6S

No.	Picture	Description	Qty.
1		Power cable (for battery connection)	4
2		Communication cable	5
3		AC power cable	5
4		Grounding cable	5
5		Power cable (for connecting 2 battery stacks)	1
6		Power cable (negative, B700 to HV800)	1
7		Communication cable (for connecting 2 battery stacks)	1
8		AC power cable (for connecting 2 battery stacks)	1

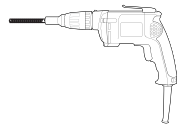
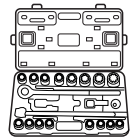
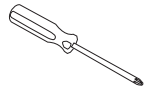
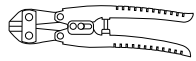
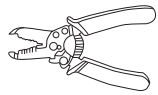
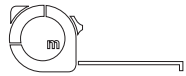
No.	Picture	Description	Qty.
9		Grounding cable (for connecting 2 battery stacks)	1
10		Power cable (positive, B700 to HV800)	1
11		Base	2
12		Cable trough	1
13		Leveling foot	8
14		Communication cable (for connecting 2 battery stacks)	4
15		Handle seal strip	2

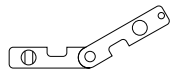
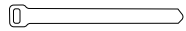
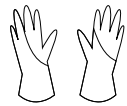
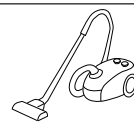
3.3.6 B5000-7S

No.	Picture	Description	Qty.
1		Power cable (for battery connection)	5
2		Communication cable	6
3		AC power cable	6

No.	Picture	Description	Qty.
4		Grounding cable	6
5		Power cable (for connecting 2 battery stacks)	1
6		Power cable (negative, B700 to HV800)	1
7		Communication cable (for connecting 2 battery stacks)	1
8		AC power cable (for connecting 2 battery stacks)	1
9		Grounding cable (for connecting 2 battery stacks)	1
10		Power cable (positive, B700 to HV800)	1
11		Base	2
12		Cable trough	1
13		Leveling foot	8
14		M4*10 screw (for attaching the base to the cable trough)	4
15		Handle seal strip	2

3.4 Prepare the Necessary Tools

No.	Picture	Description
1		Electric drill (5 mm/0.2 in, 8 mm/0.31 in, 10 mm/0.39 in)
2		Socket wrench set
3		Wrench
4		Flat screwdriver
5		Cross screwdriver (4 mm/0.157 in)
6		Cable cutter
7		Cable stripper
8		Multimeter (DC voltage ≥ 1.000 VDC)
9		Marker
10		Measuring tape

No.	Picture	Description
11		Level ruler
12		Cable tie
13		Anti-static gloves
14		Protective goggle
15		Mask
16		Safety-toe shoes
17		Vacuum cleaner

3.5 Installation Requirements

3.5.1 Environment Requirements

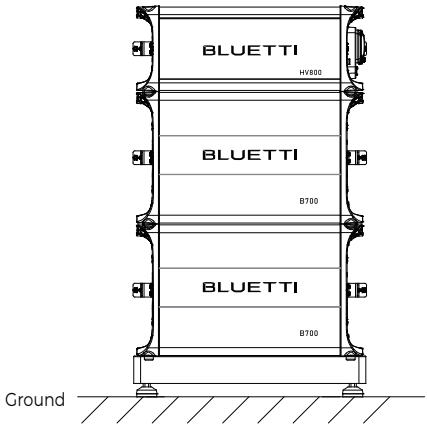
- Install the B5000 BESS in a well-ventilated and spacious area to ensure good heat dissipation.
- It is recommended that the B5000 BESS be installed indoors.
- Do not install the B5000 BESS in locations with direct sunlight.
- Keep the B5000 BESS away from flammable liquids, gases, or explosive materials.
- Keep away from children and pets.
- Do not install the B5000 BESS outdoors in salt-affected areas, as the accumulation of salt may corrode the system. Salt-affected areas are those within 500 m (1,640.4 ft) from the coast or susceptible to sea breezes. Salt accumulation is influenced by seawater, sea breeze, precipitation, air humidity, topography, and forest cover of adjacent sea areas.
- Do not install the system in low-lying areas where water tends to accumulate. Otherwise, water may leak into the equipment and result in system failure.
- Ambient temperature range: -20°C to 40°C/-4°F to 104°F.
- Relative humidity: 5%-95% (non-condensing).
- Maximum height: 2.000 m/6,561.68 ft.

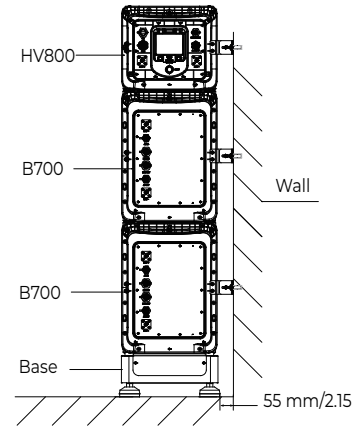
Attention

If the battery pack is dropped, violently impacted, or tilted during installation, it may result in internal damage. So do not use such battery packs to avoid safety risks such as battery leakage and electric shock.

3.5.2 Location Requirements

- The B5000 BESS should be installed on a firm, flat, level base.
- Secure the system to the wall using brackets on both sides of each layer.
- Do not install the system on flammable materials.
- Consider the weight and placement of components to ensure adequate structural support.

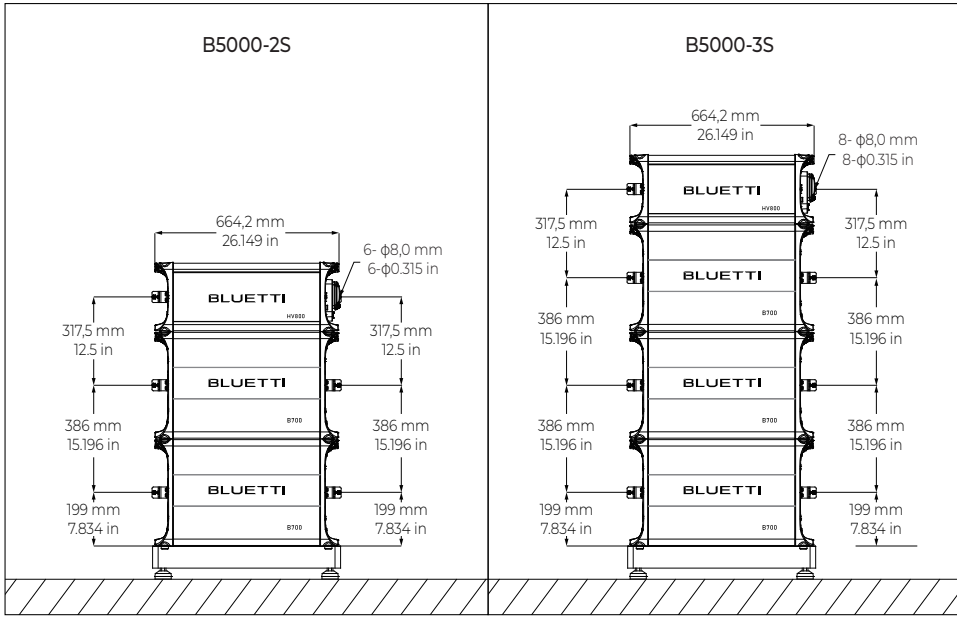




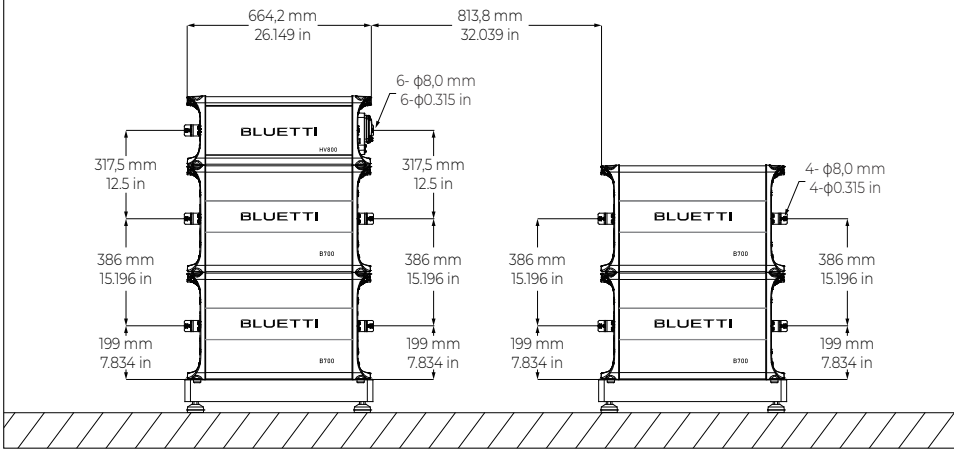
3.5.3 Space Requirements

Danger

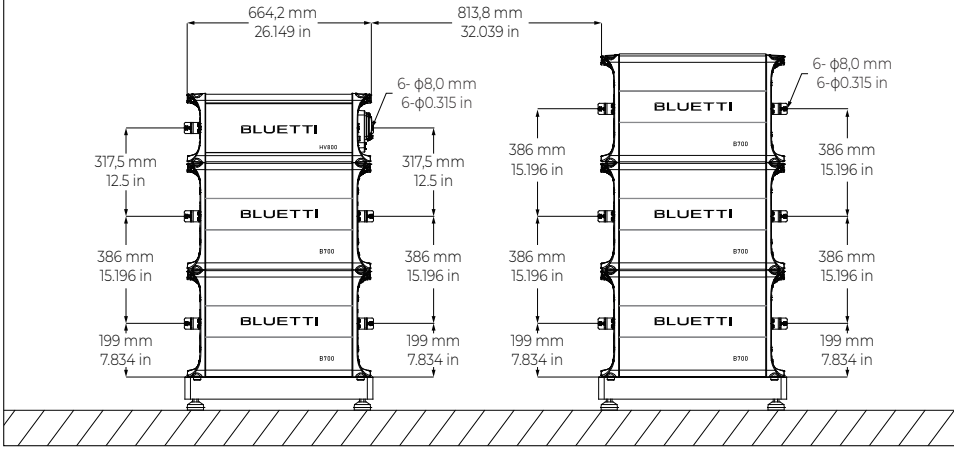
Make sure to check for any cables or pipes before drilling into the wall.



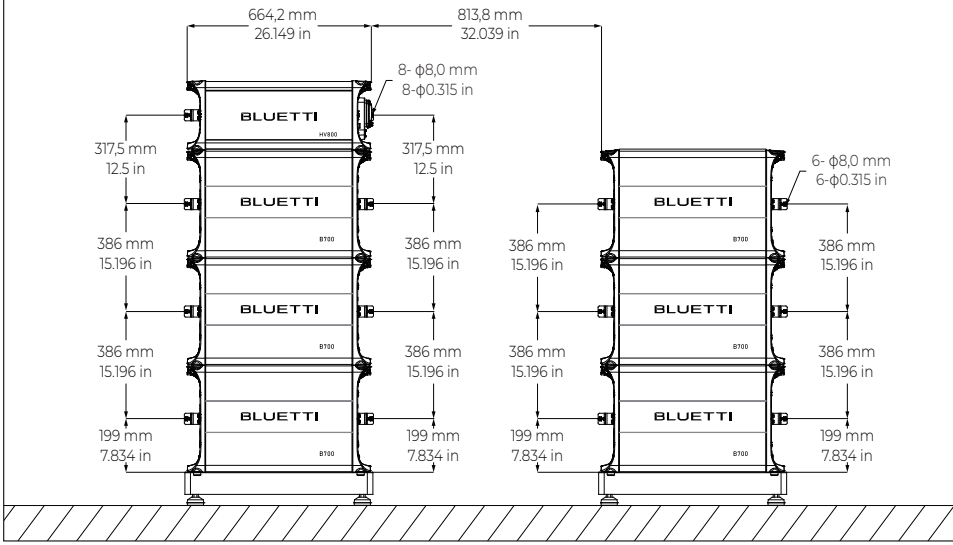
B5000-4S



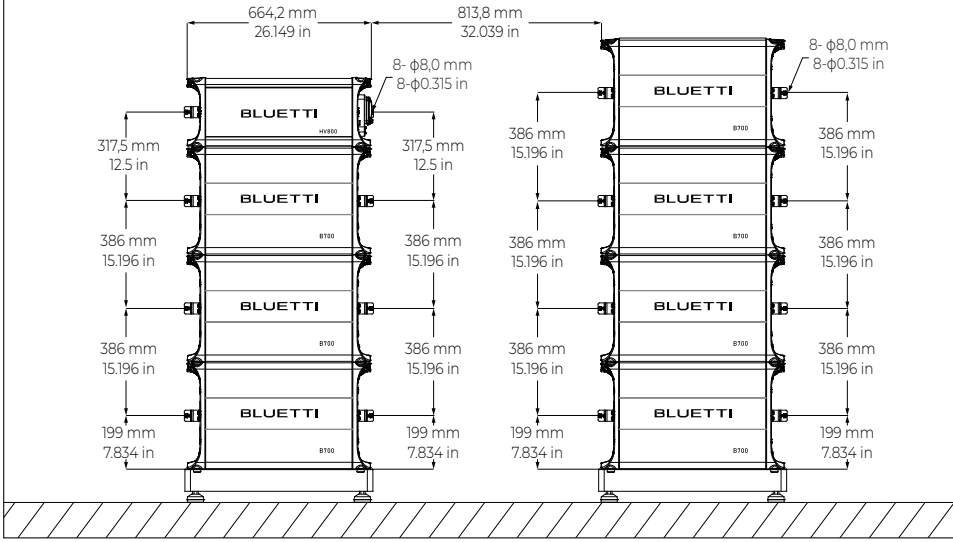
B5000-5S



B5000-6S

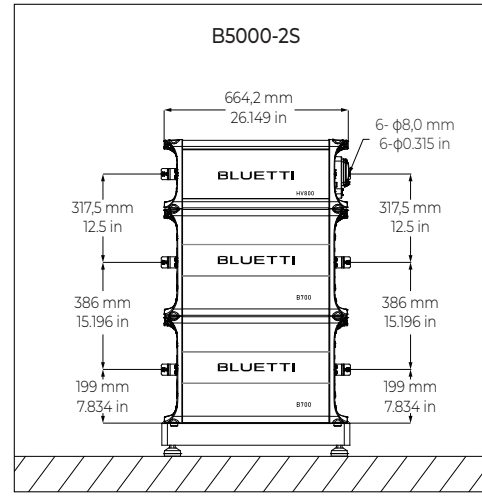


B5000-7S



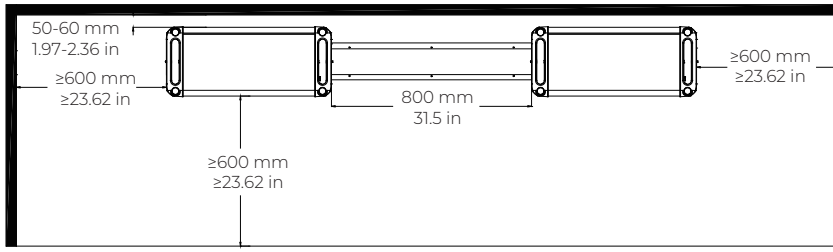
Hole Positions

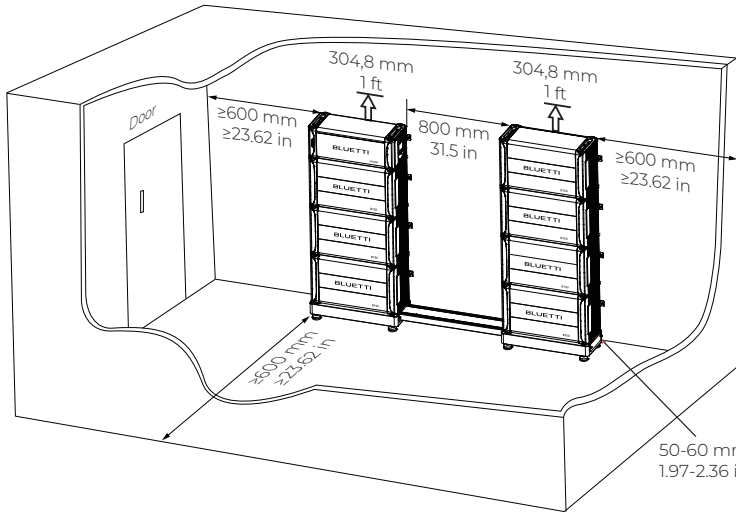
Note: Stack up to 4 layers of equipment on the base, including the HV800 battery controller. If using more than 3 B700 batteries, arrange them into two separate stacks with at least an 800 mm (31.5 in) gap. Adjust one set of installation holes for each addition or removal of a battery pack.



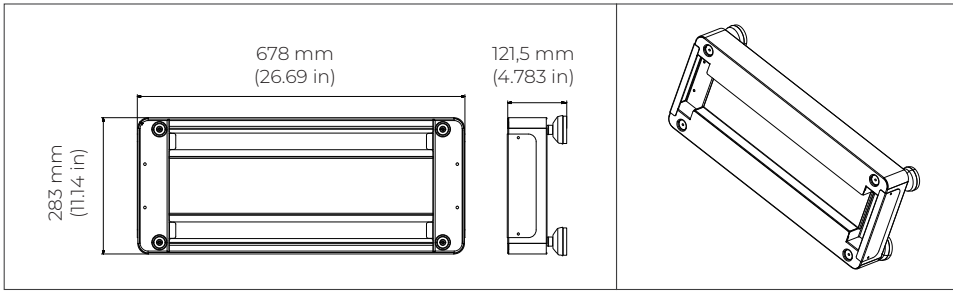
Layout Position

Note: The B5000 BESS installation requires a minimum space, as shown in the space reference below.





3.5.4 Base Dimensions



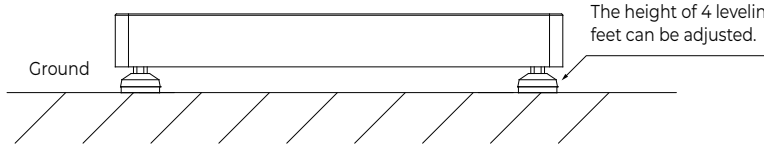
3.6 Installation

The system installations are similar across the B5000-2S to B5000-7S systems. The manual uses the B5000-2S system as an example.

Note: Arrange battery packs of B5000-4S, B5000-5S, B5000-6S, and B5000-7S systems into two separate stacks.

3.6.1 Stacking

Step 1: Place the base on the ground and adjust the height of leveling feet so that the base stands stably on the ground. Don't forget to tighten the nuts to secure the leveling feet.



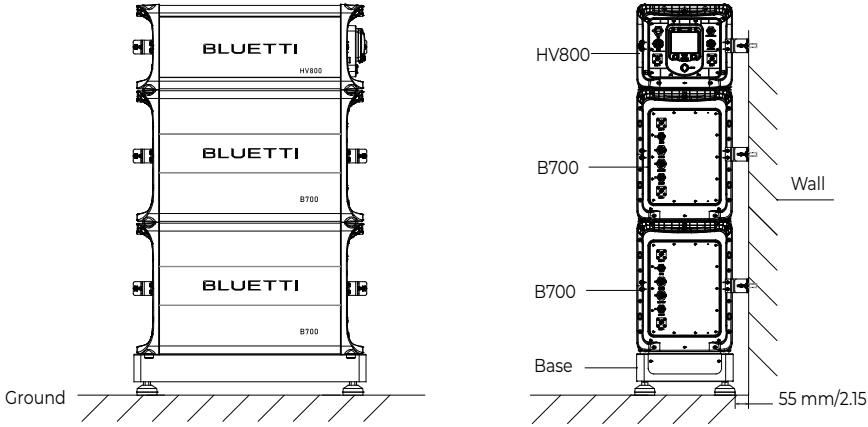
Step 2: Mark the drilling positions with tape and marker. Drill holes with the electric drill and insert M8 expansion bolts.

Step 3: Move the B700 battery pack to the base. Two people are required to transport the B700. Align the bumps on the battery with the notches on the base to secure the battery in place.

Step 4: Fix 2 brackets #1 to two sides of B700 with 4 M5*12 screws. Put the bracket #2 through the compression rivet screw of bracket #1 and M8 expansion bolts. Secure the connection with M8 and M5 nuts.

Step 5: Repeat Steps 3 and 4 to secure all battery packs.

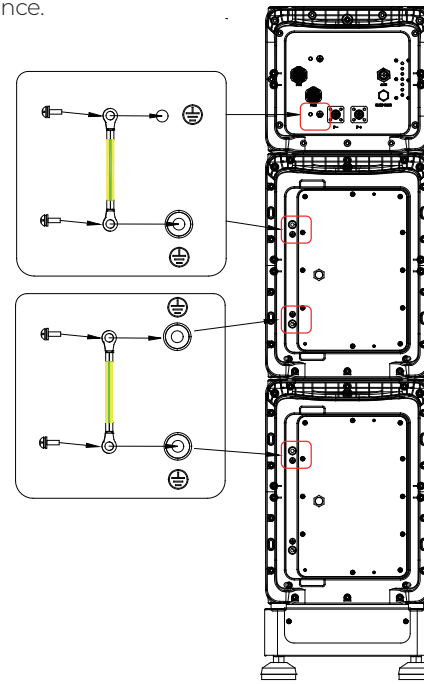
Step 6: Follow the same steps to install the HV800 battery controller on top.



3.6.2 Grounding Cable

Step 1: Prepare a cross screwdriver, M6*14 screws, and the grounding cables.

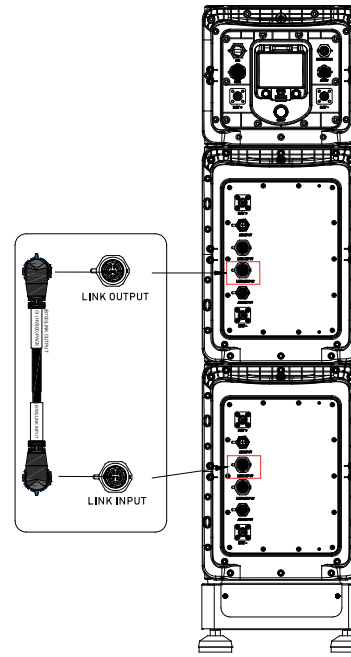
Step 2: Use the screwdriver to tighten the grounding cable from the lower terminal to the higher terminal in sequence.



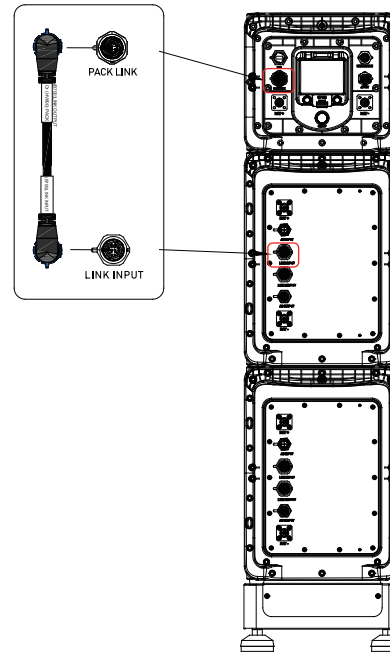
Note: For B5000-4S to B5000-7S, connect the cables within each stack first. Then use the longer grounding cable to connect two battery stacks.

3.6.3 Communication Cable

Step 1: Connect the communication cables from the lower B700's LINK INPUT port to the upper B700's LINK OUTPUT port. Start with the bottom pack.

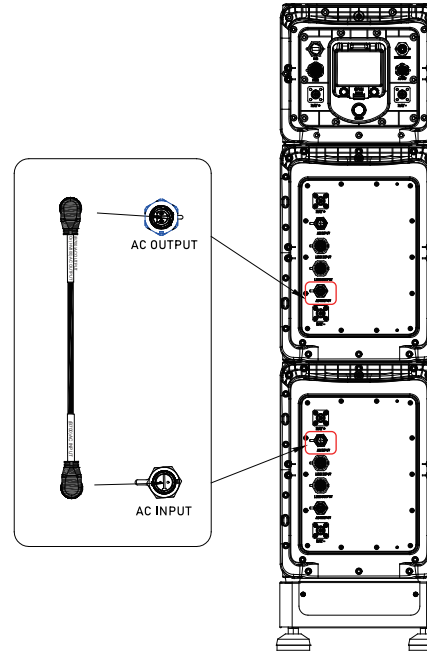


Step 2: Connect the top B700's LINK INPUT port to the HV800's PACK LINK port using the communication cable.

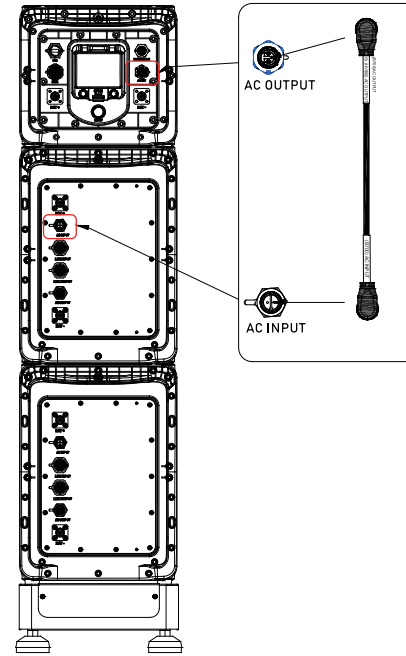


3.6.4 AC Power Cable

Step 1: Connect the AC power cables from the lower B700's AC INPUT port to the upper B700's AC OUTPUT port. Start with the bottom pack.

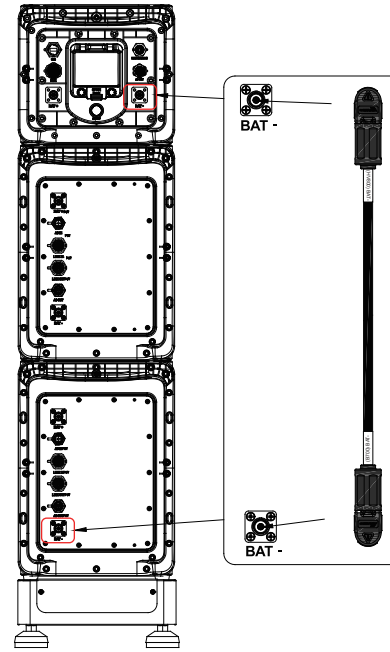


Step 2: Connect the top B700's AC INPUT port to the HV800's AC OUTPUT port using the AC power cable.



3.6.5 Negative Power Cable

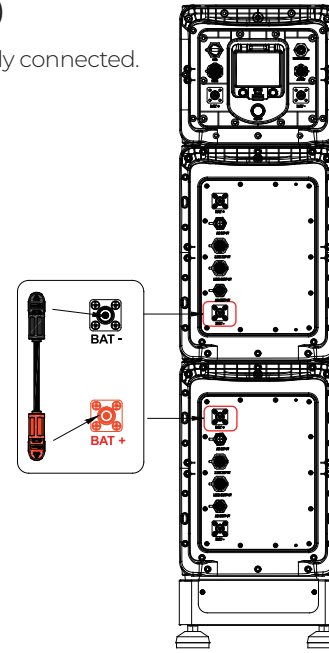
Connect the bottom B700's BAT- port to the HV800's BAT- port using the negative power cable.



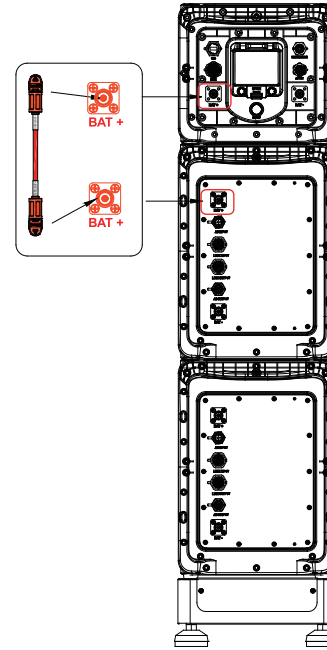
3.6.6 Power Cables (with Positive Terminal)

Note: Ensure the mentioned cables are securely connected.

Step 1: Use the power cable to connect the lower B700's BAT+ port to the upper B700's BAT- port (red for positive and black for negative). Start with the bottom pack.



Step 2: Connect the top B700's BAT+ port to the HV800's BAT+ port using the positive power cable.



4. System Operation

4.1 Power on/off

Power on:

- Ensure all power cables, communication cables, AC power cables, and other cables are connected securely.
- Confirm that all components of the system are installed according to specific requirements.
- Move tools and components away from the equipment.
- Switch the circuit breaker on the HV800 to “ON”.
- Press and hold the power button on the HV800 until it lights up green, and the high voltage and low voltage indicators are steady.

Power off:

- Disconnect the communication cable from the inverter.
- Press the power button on the HV800 until the green indicator starts flashing, indicating that the B5000 BESS is entering shutdown.
- During the shutdown, pressing the buttons on the B5000 BESS won't have any effect.
- When the HV800’s indicator turns off, the B5000 BESS powers off.
- Switch the circuit breaker on the HV800 to “OFF”.

4.2 Status of Indicators

4.2.1 Power Button

Status	Description	Note
Off	B5000 BESS shutdown	HV800 circuit breaker can be operated.
Steady	B5000 BESS operating	HV800 circuit breaker cannot be operated.
Flashes once every 2s	Self-check before powering on	
Flashes once every 0.5s	Powering off	

4.2.2 LV ON Indicator

Status	Description	Note
Off	B5000's low-voltage system not activated	/
Steady	B5000's low-voltage system operating normally	HV800 circuit breaker cannot be operated.
Flashes once every second and then turns off	B5000's low-voltage system powering off	

4.2.3 HV ON Indicator

Status	Description	Note
Off	B5000's high-voltage system not activated	/
Steady	B5000's high-voltage system operating normally	HV800 circuit breaker cannot be operated.
Flashes once every second	B5000's high-voltage system has a charging/discharging fault	

4.2.4 SoC Indicators

- Each lit indicator represents 20% SoC.
- All indicators remain steady when fully charged and go off when fully discharged.
- Flashing indicators show the charging progress.

4.3 System Maintenance

- If the HV ON indicator flashes, please contact BLUETTI support or your local BLUETTI dealers.
- To avoid abnormal operation, do not disconnect the HV800 circuit breaker while the B5000 is in normal operation.
- Do not disassemble the metal enclosure of the B5000 system to prevent electric shock or explosion hazards.

5. Disposal

Attention

BLUETTI does not recycle batteries. Please contact your local recycling facilities for proper battery disposal.
If local options are unavailable, consider reaching out to nearby international recycling organizations.

Disposal Process Overview:

1. Contact the nearest battery recycling organization.
2. The organization assesses the costs of recycling.
3. Recycling methods include:

- On-site recycling: The organization collects lithium batteries on-site; costs vary based on distance and transportation.
- Centralized recycling: Gather all lithium batteries at one location for the organization to manage.

Note: You are responsible for transportation expenses.

4. Recycled lithium batteries are handled by the organization.

6. Specifications

6.1 B700 Battery

Item	Rating	Note
Battery Chemistry	$LiFePO_4$	Prismatic cell
Cell Capacity	72 Ah	
Battery Capacity	72 Ah	1P32S
Nominal Battery Voltage	102,4 V	3,2 V × 32
Nominal Battery Energy	7.372,8 Wh	Charging: 0.5C/3,6 V/0.05C (25°C/77°F) Discharging: 0.5C/2,5 V (25°C/77°F)
Usable Battery Energy	6.635,52 Wh	90% DoD Charging: 0.5C (25°C/77°F) Discharging: 0.5C (25°C/77°F)
Cell Overvoltage Protection	3,62 V	
Cell Undervoltage Protection	2,5 V	
Minimum Output Voltage	83,2 V	2,6 V × 32
Maximum Input Current	36 A	The continuous input current is affected by temperature and SoC.
Maximum Output Current	50 A	The continuous output current is affected by temperature and SoC.
Short-Circuit Protection	Yes	
Discharging Overtemperature Protection	61°C/141.8°F	
Discharging Overtemperature Recovery	55°C/131°F	
Discharging Low Temperature Protection	-22°C/-7.6°F	
Discharging Low Temperature Recovery	-20°C/-4°F	
Charging Overtemperature Protection	61°C/141.8°F	
Charging Overtemperature Recovery	55°C/131°F	
Charging Low Temperature Protection	-1°C/30.2°F	
Charging Low Temperature Recovery	1°C/33.8°F	

6.2 HV800 Battery Controller

Item	Rating	Note
Working Voltage	130 Vdc to 800 Vdc	
Output Switch	High-voltage contactor × 2	
Output Switch Position	1 each for positive and negative terminals	
Fuse	800 Vdc/150 A, fast blow	
Circuit Breaker	1.000 Vdc/80 A, Type B	
Output Connector	100 A/1.000 Vdc, aviation connector	
Dimensions (W × H × D)	659,8 mm × 279,8 mm × 248,8 mm /25.98 in × 11.02 in × 9.8 in	
Net Weight	19 kg/41.89 lbs	

6.3 B5000 BESS

Item		Rating	Note
Noise Emission (Typical)		<25 dB	No fans
Number of B700 Connected in Series		2 to 7 units	Parallel connection not supported
Operation Temperature Range	Charging	0°C to 55°C/32°F to 131°F	
	Charging	-20°C to 55°C/-4°F to 131°F	The PCS connects to the grid.
	Discharging	-20°C to 55°C/-4°F to 131°F	
Storage Temperature		Up to 1 month: -20°C to 40°C/-4°F to 104°F Up to 3 months: -20°C to 30°C/-4°F to 86°F	At least one charge cycle every 3 months at 28% to 30% SoC.
Working Humidity		5% to 95%, relative humidity	
Operating Altitude		≤2.000 m/6,561.68 ft	
Degree of Protection		IP65	
Mounting		Floor Mounting (fixed to the wall)	Stack up to 4 modules on the ground per stack.
Dimensions (W × H × D)		Depends on the installation	
Net Weight		Depends on the number of modules	
Certificates and Permits		IEC62619, UN38.3, VDE2510-50	

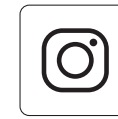
6.4 B5000 BESS Configuration

B5000 Combo	Number of HV800	Number of B700	Working Voltage (V)	Battery Capacity (kWh)
B5000-2S	1	2	160 to 230,4	14,7
B5000-3S	1	3	240 to 345,6	22,1
B5000-4S	1	4	320 to 460,8	29,4
B5000-5S	1	5	400 to 576	36,8
B5000-6S	1	6	480 to 691,2	44,2
B5000-7S	1	7	560 to 784	51,6

For more information, please visit:

@ BLUETTI Support
@ BLUETTI Official

DE: @Bluetti Deutschland
UK: @Bluetti United Kingdom



DE: @bluetti_de
UK: @bluetti_uk

EU REP

Company: POWEROAK GmbH
Address: Lise-Meitner-Str. 14 28816 Stuhr Germany
Email: sale-de@bluettipower.com

UK REP

Company: POWEROAK ENERGY UK CO.,LTD
Address: Unit 2 NorthGate, Bolsover Business Park, Woodhouse Lane Chesterfield England, S44 6BD
Email: sale-uk@bluettipower.com

Customer Service(DE)

Tel: **+49 8006 273016**

Service Hours: Monday to Friday 9:00 - 17:00 (local time)

Customer Service(UK)

Tel: **+44 8000 472906**

Service Hours: Monday to Friday 9:00 - 17:00 (local time)

SHENZHEN POWEROAK NEWENER CO., LTD.

Address: F19, BLD No.1, Kaidaer, Tongsha Rd No.168, Xili Street, Nanshan, Shenzhen, China

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