

EnergyPro 6K

Energy Storage System

User Manual v2.0

Important Instructions

For the best experience and performance,
upgrade the system to the latest firmware first.
Then charge it to 50% SoC.

See the appendix "Update Firmware via
BLUETTI App" for guidance.

Read and understand this manual before use and keep
it handy for future reference.



Thank You!

Thank you for making BLUETTI a part of your family.

From the very beginning, BLUETTI has tried to stay true to a sustainable future through green energy storage solutions while delivering an exceptional eco-friendly experience for our homes and our world.

That's why BLUETTI makes its presence in 110+ countries and is trusted by millions of customers across the globe.



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The contents of this manual are subject to change without notice. Please get the latest version from: <https://www.bluettipower.com/pages/user-guides>

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

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About the Manual

Purpose

This user manual describes the installation, electrical connection, commissioning, maintenance and troubleshooting of EnergyPro 6K Energy Storage System (hereinafter referred to as EP6K). Please read and understand all instructions in this manual before use.

Target Audience

- Installation, operation, and maintenance technicians
- End-user

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 contains important additional information as well as useful tips for safe, efficient, and hassle-free operation of the EnergyPro 6K energy storage system.

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1. Safety Guideline

1.1 Safety Instructions

1.1.1 Statement

Before installing, operating, or maintaining this equipment, please read this manual thoroughly and follow all safety precautions indicated on the equipment and in this manual.

Look for and follow all **"Instruction"**, **"Attention"**, **"Caution"**, **"Warning"**, and **"Danger"** statements in this manual. The safety guidelines provided herein do not cover all possible safety considerations. Please follow all relevant international, national, or regional standards, as well as industry practices. Our company shall not be liable for damages resulting from non-compliance with these safety requirements or standards.

For issues or operations not covered in this manual, please contact BLUETTI support, otherwise we are not responsible for any damage or injury caused by unauthorized operations.

Always consider the actual on-site conditions when using this equipment. Use it only in environments that meet the requirements outlined in this manual. Failure to do so may cause equipment malfunctions or damage, which are not covered by the warranty. Our company is not liable for any injuries or property damage caused by improper use.

Thus, for proper installation and operation of this equipment, please follow these basic usage guidelines:

- Always operate and store the equipment in the conditions specified in this manual.
- Ensure that installation and usage comply with applicable international, national, or regional standards.
- Avoid unauthorized disassembly, modifications, or software changes.

BLUETTI is also not liable for the following situations or any resulting consequences:

- Damage caused by natural disasters, including earthquakes, fires, storms, floods, or mudslides.
- Damage that occurs during customer-handled transportation.
- Issues caused by improper storage or operation outside the conditions specified in this manual.
- Damage resulting from customer negligence, misuse, or intentional harm.
- System failures due to third-party or customer actions, including improper handling or installation not in line with this manual.
- Damage caused by unauthorized repairs, adjustments, or removal of product labels.

- Installation or operation by unauthorized personnel.
- Use of customer-provided materials or tools that do not meet local legal requirements or relevant standards.

	Attention
	Follow these guidelines for proper operation.

- This equipment is not intended for use with devices that have high-performance requirements for UPS (Uninterruptible Power Supply), including but not limited to data servers, workstations, medical equipment, and similar devices. Our company shall not be liable for any data loss or equipment damage resulting from the violation of this requirement.

1.1.2 General Requirements

	Danger
	Follow these guidelines for proper operation.

- Do not install, use, or maintain outdoor equipment or cables (including, but not limited to, handling equipment, operating devices, connecting outdoor signal interfaces, working at heights, or outdoor installations) in adverse weather conditions, such as lightning, rain, snow, and strong breezes.
- Always ensure the equipment is powered off before performing any electrical work.
- Do not clean the equipment with water.
- Do not disassemble, modify, tamper with or repair the equipment on your own.
- Periodically check the equipment and accessories for any signs of damage or wear.
- Use a tester to check for hazardous voltage before touching any conductors or terminals.
- In the event of a fire, prioritize personal safety. If safe to do so, immediately disconnect power at the distribution box and use a CO₂, FM-200, or ABC dry powder fire extinguisher.
- If a fire occurs, EVACUATE the building or affected area promptly. Activate the nearest FIRE ALARM system and CONTACT local emergency services.

- Use only cables and accessories provided or recommended by BLUETTI.
- Avoid placing the equipment near heat sources or in high-temperature environments.
- Keep flammable or explosive materials away from the system.
- Use the equipment in a well-ventilated, spacious area.
- Never block or cover the equipment's ventilation openings.
- Do not use the equipment as a surface for storing or stacking items.
- Do not move the equipment during operation, as vibrations and shocks from movement can damage internal hardware.
- In case of malfunction, immediately power off the equipment and contact BLUETTI support or your local BLUETTI dealer if the manual does not adequately explain the issue.
- Always set the equipment on a stable, level surface.
- Do not insert foreign objects into any ports or vents of the equipment.
- Keep the equipment out of the reach of children and pets.
- Do not install the equipment where it could be exposed to water or submerged.
- Do not touch the equipment, as the shell may become hot and pose a risk of burns when it's running.

	Instruction
Comply with all relevant laws, regulations, and standards.	

- All operations, including transportation, handling, installation, wiring, and maintenance, must comply with the laws, regulations, and relevant standards of the country or region in which the equipment is being used.
- Any materials and tools provided by the user must also meet the legal and regulatory requirements and standards of the respective country or region.
- Ensure a thorough understanding of the equipment's composition, working principles, and the applicable standards in the country or region where the project is located.

1.1.3 Personnel Requirements

- Only qualified and authorized personnel should perform installation, commissioning, and maintenance, adhering to proper safety precautions and operating practices.
- The personnel who need to work on the equipment must possess the necessary qualifications and electrical certifications required by local regulatory authorities.
- Only authorized personnel are allowed to replace the equipment or components (including software).
- Only qualified personnel are allowed to remove safe features and inspect the equipment.

1.2 Installation Safety

	Danger
	Follow these guidelines for proper operation.

- Avoid working with live electrical components.
- Before installation, double check the equipment for any signs of damage or defects to minimize potential risks.
- Make sure that the equipment and all associated switches are in the "OFF" position to prevent electric shock.
- Do not touch any terminal while the equipment is running, as it may pose a risk of electric shock.
- Use a tester to check for dangerous voltage before touching any conductor or terminal.

	Warning
	Follow these guidelines for proper operation.

- Installation should only be performed by qualified or authorized personnel.
- All cables should be securely connected with proper insulation and meet required standards.



Attention

When moving the equipment, be mindful of its weight and balance. Take care to avoid tipping or dropping it, as that could result in damage to the equipment or injury.

1.2.1 General Requirements

- After installing the equipment, remove the idle package materials from the site such as cardboard, foam, plastic, nylon ties, etc.
- Keep people other than the installers away from the equipment.
- 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 or cover equipment markings or nameplates.
- Check and make sure all safe guards, including screws and waterproof rings, are in place and properly tightened.
- Secure the unit firmly to the floor or other stable objects, such as walls or mounting brackets before operation.
- Clean the equipment and accessories with a soft cloth; avoid water or harsh chemicals.
- Do not make any changes to the equipment's structure, installation sequence, or any other aspects without permission.

1.2.2 Drilling Requirements

When drilling holes in the wall or on the ground, follow these safety measures:

- Wear goggles and protective gloves at all times.
- Shield the equipment to prevent debris from falling into it, and remove all debris after drilling.
- Drill holes on the equipment is forbidden as it may damage the equipment's electromagnetic shielding performance. The metal shavings may cause short circuits on the circuit board.
- Make sure to check for any embedded pipes or cables before drilling to prevent short circuits or other hazards.

1.3 Battery Safety

1.3.1 Statement

Our company shall not be liable for equipment malfunctions, component damage, personal injury, property loss, or other issues caused by the following:

- Failure to charge the battery in time after installation, leading to overdischarge and damage.
- Improper battery maintenance as per the user manual, including irregular charging, prolonged incomplete charging, and frequent over-discharging of the battery.
- Incorrect battery operational settings.
- Failure to charge the battery as required during storage, resulting in capacity loss or irreparable damage.
- Improper operation causing battery short-circuits, damage, drops, or leaks.
- Battery damage caused by operating conditions or external power parameters that do not meet environmental requirements.

1.3.2 Installation Requirements

- Install the equipment away from liquids and avoid locations near vents, windows, or water pipes to prevent leaks that could damage equipment or cause short circuits.
- Before installation, inspect the packaging for any signs of damage.
- After unpacking the battery, place it as directed. Do not invert, tilt, or stack to prevent damage from impacts or falls.
- Use a torque wrench to tighten screws correctly during installation and check them regularly.
- Remove unused packaging materials such as foam, cardboard, plastic, and excess cables from the equipment area after installation.

1.3.3 General Requirements

	Danger Follow these guidelines for proper operation.
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- Use the battery within the specified temperature range.
- Do not expose the battery to humidity or corrosives, as this may cause the battery to rust, corrode, and leak chemicals.

- Keep the battery away from high temperatures or heat sources such as sunlight, fire, transformers, and heaters. Excessive heat can cause leaks, smoke, release of flammable gases, overheating, fires, or explosions.
- Do not dismantle, alter, or damage the battery, as this could lead to fire or explosion risks. For instance, do not insert foreign objects into the battery or submerge it in water or other liquids.
- If any part of the battery has been submerged in water, do not touch it to prevent electric shock. Contact the battery company immediately for assistance.
- Do not use damaged batteries or components.
- Avoid welding or grinding near batteries to prevent fire from sparks or arcs.
- Store damaged batteries away from flammable materials and undamaged ones. Only professionals should handle damaged batteries.
- 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.
- Electrolyte is corrosive and can cause irritation and chemical burns. If you come into direct contact with battery electrolyte:
 - a. **Inhalation of Vapors:** Evacuate the contaminated area, get fresh air immediately, and seek medical attention.
 - b. **Eye Contact:** Immediately flush eyes with water for at least 15 minutes, do not rub eyes, and seek medical 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.
- Handle the battery with care. Do not invert, tilt, or stack the battery improperly to avoid damage.
- Avoid mechanical vibrations, drops, impacts, punctures, or pressure shocks to the battery, as these can cause damage or fires.
- Pay attention to the status indicators on the battery and related products.

1.3.4 Emergency Measures

	Danger
	Fire Emergency Measures Follow these guidelines for proper operation.

- In case of fire, power off the equipment if it is safe to do so.
- Use a CO₂ 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.

	Danger
	Battery Drop Emergency Measures Follow these guidelines for proper operation.

- 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.

1.3.5 Battery Disposal

- Safely and carefully dispose of used batteries by the provisions of local laws and regulations. Avoid treating batteries as regular household waste, as improper disposal can lead to environmental pollution.
- If you find a leaking or damaged battery pack, contact us immediately or an authorized battery recycling partner for expert assistance.
- If the battery pack reaches the end of its lifespan, please contact the battery recycling company for further assistance.
- To maintain battery integrity, do not expose used batteries to high temperatures or direct

sunlight.

- Protect used batteries from moisture and corrosive substances to avoid potential hazards.

1.4 Electrical Safety

1.4.1 General Requirements

- Ensure all electrical connections comply with national/regional electrical standards.
- User-provided cables should meet local legal requirements.
- Use specialized insulated tools for electrical work.
- Both AC and DC voltage sources are terminated inside this equipment. Each circuit must be individually disconnected before servicing. When the photovoltaic array is exposed to light, it supplies a DC voltage to this equipment.
- **WARNING: RISK OF ELECTRIC SHOCK, BATTERY CIRCUITS NOT ISOLATED FROM AC INPUT, HAZARDOUS VOLTAGE MAY EXIST BETWEEN BATTERY TERMINALS AND GROUND, TEST BEFORE TOUCHING.**
- **WARNING: RISK OF ELECTRIC SHOCK, HAZARDOUS LIVE PARTS INSIDE THIS POWER SUPPLY ARE ENERGIZED FROM THE BATTERY SUPPLY EVEN WHEN THE INPUT AC POWER IS DISCONNECTED.**

1.4.2 Grounding Requirements

- Always make the ground connection first during installation and remove it last during disassembly.
- Take care not to damage the grounding conductor.

1.4.3 Wiring Requirements

- Cables used in high-temperature environments may experience insulation aging or damage. Maintain a minimum distance of 1.18 inches (30 mm) between cables and heat-emitting devices or areas with thermal sources.
- Group cables of similar types together to reduce electromagnetic interference. Separate different types of cables by at least 1.18 inches (30 mm) and avoid twisting or crossing them.
- Cables used in energy storage systems must be securely connected, well-insulated, and of suitable specifications.
- Take necessary measures to protect cables when passing through pipes or holes.
- In cold temperatures, severe impacts or vibrations can cause the plastic coating of cables to become brittle and crack. To ensure safe installation:
 - a. Lay and install all cables at temperatures above 32°F (0°C). Handle cables with care, especially when working in cold environments.

b. If cables have been stored in temperatures below 32°F (0°C), store them at room temperature for at least 24 hours before installation.

1.5 Maintenance Requirements

	Danger Follow these guidelines for proper operation. Maintenance should only be performed by qualified personnel.
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- Always turn off and disconnect all power sources before performing any maintenance on the equipment. Follow the safety guidelines provided in this manual and other relevant documents strictly. Failure to do so may result in electric shock, serious injury, or substantial property damage.
- Warning – These servicing instructions are for use by qualified personnel only. To reduce the risk of electric shock, do not perform any servicing other than that specified in the operating instructions unless you are qualified to do so.
- Before performing any operations, disconnect all electrical connections and ensure the system is fully discharged.
- For any maintenance needs, please contact your local authorized service center.
- Place temporary warning signs or erect fences to prevent unauthorized access to the maintenance site.
- 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 injury or equipment damage.
- Use tools correctly to avoid injury or damage to equipment. Never touch energized components.
- Do not clean the electrical components inside and outside the cabinet with water.
- Do not stand, lean on, or sit on top of the equipment, and take care not to 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.
- Batteries can cause electric shock and high short-circuit current. When using batteries, please note the following:
 - a. Remove any metal objects like watches and rings.

- b. Use tools with insulated handles and wear rubber gloves and boots.
- c. Prevent metal objects or conductive liquids from contacting battery terminals or enclosures.
- d. Do not place tools or metal parts on top of the battery.
- e. Disconnect the charging power source before connecting or disconnecting battery terminals.

1.6 Transportation Requirements

All components of the EnergyPro 6K 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.

1.7 Storage Requirements

- When not using the EP6K for extended periods of time, power it off and remove all electrical connections.
- Charge the system to 40%-60% SoC before storage.
- In order to keep the battery healthy, fully charge and discharge the system every 3 months.
- Store the system in a well-ventilated and spacious area.
- Do not store the system in flammable or explosive environments.
- It is recommended to clean the surface frequently with a dry soft cloth.
- Keep the system out of the reach of children and pets.
- Do not stack anything on top of the equipment during storage.
- Avoid exposing the equipment to rain, humidity or direct sunlight.
- For details of storage temperature, please refer to [Chapter 11. Specifications](#).

1.8 Handling Requirements

Recommended Number of People Based on the Weight of Product

Weight	Number of People
< 39.7 lbs (18 kg)	1
39.7 lbs-70.5 lbs (18 kg-32 kg)	2
70.5 lbs-121.3 lbs (32 kg- 55 kg)	3
> 121.3 lbs (55 kg)	4 or a cart

1.9 Label Description

Label	Name	Description
	Discharge delay	There is still residual voltage after the equipment is powered off. Wait 5 minutes for complete discharge before performing maintenance.
	High temperature	This equipment generates heat during operation and may remain hot even after shutdown. Please use appropriate heat protection. Be cautious of hot areas around and near the device, and use appropriate heat protection.
	Grounding	Grounding terminal
	Electrical shock warning	High voltage is present during operation. Only qualified and authorized personnel should handle this equipment.
	Warning	Hazards may occur during operation. Take necessary precautions.
	Read manual	Read the manual carefully before operating the equipment.
	This side up	Handle, transport, and store in this orientation at all times. The arrow should always point upwards.

Attention	
	• Do not alter or damage the labels or nameplates. • Do not cover the labels. Clean them regularly to ensure they're visible at all times.

1.10 FCC and IC Compliance Statement

• FCC Warning

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

• IC Caution

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s).

Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables

aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) L' appareil ne doit pas produire de brouillage;
- (2) L' appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

2. EP6K Energy Storage System

2.1 Introduction

The EP6K is an all-in-one home energy solution designed for everyday efficiency. It includes the EnergyPro 6K, a powerful inverter with built-in battery storage, and the AT1 smart distribution panel that helps manage and distribute power throughout your home. With the BLUETTI app, you can monitor and control your system anytime, anywhere.

When connected to solar panels, the EP6K stores extra energy during the day for use at night. If you don't have solar, you can schedule charging during off-peak hours and use that power when electricity rates are high. During a power outage, it keeps your home running smoothly by automatically adjusting to your energy needs.

2.2 System Components

• EnergyPro 6K

The EnergyPro 6K is a combined inverter and battery unit that can charge from solar panels, the grid, or a generator. Its built-in bidirectional inverter allows it to both store energy and supply power as needed. With a modular design, up to five units can be connected in parallel, making it easy to scale system capacity and output to fit your home's energy requirements.



• **ATI**

The ATI smart distribution panel comes with a built-in energy management system (EMS), distribution module, smart circuits, and communication modules. These features work together to efficiently manage power across your entire system, automatically switching to backup power when needed.



• **Ebox (Optional)**

The Ebox EMS controller puts instant control at your fingertips—no app required. View system status, track energy use, and manage your home power anytime, anywhere.



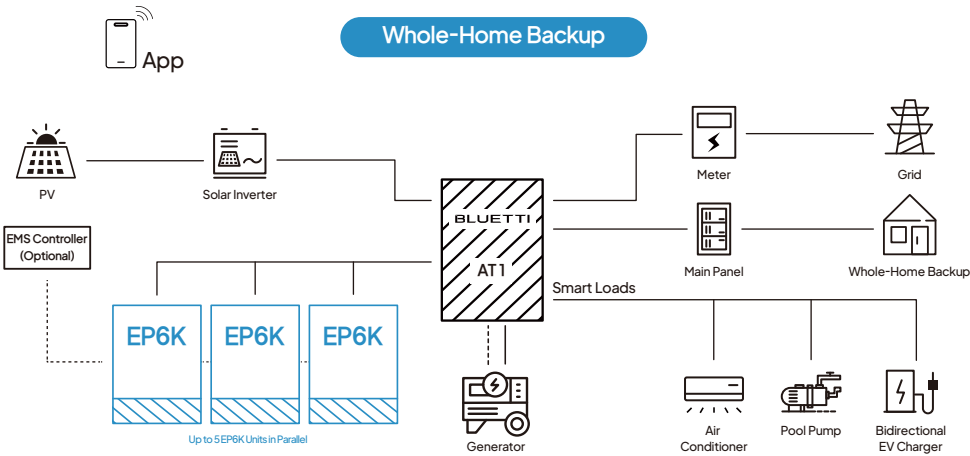
Component	Description	Note
EnergyPro 6K	All-in-one inverter and battery unit	Please refer to Chapter 3. EnergyPro 6K for details.
ATI	Smart distribution panel	Please refer to Chapter 4. ATI Smart Distribution Panel for details.
EMS controller	Monitors and manages the EP6K's operation.	Optional; refer to the <i>EMS User Manual</i> for details.
BLUETTI app	Communicates with the ATI via Bluetooth for nearby control or WiFi for remote access.	Please refer to the <i>BLUETTI App User Manual</i> for details.
Combiner box	Ensures safe and efficient connections for multiple devices connected to a single ATI circuit breaker.	Optional
Circuit breaker	Protects grid-connected circuits.	/

2.3 Applications

The EP6K works with both whole-home and partial backup setups. Choose the one that fits your energy needs during installation.

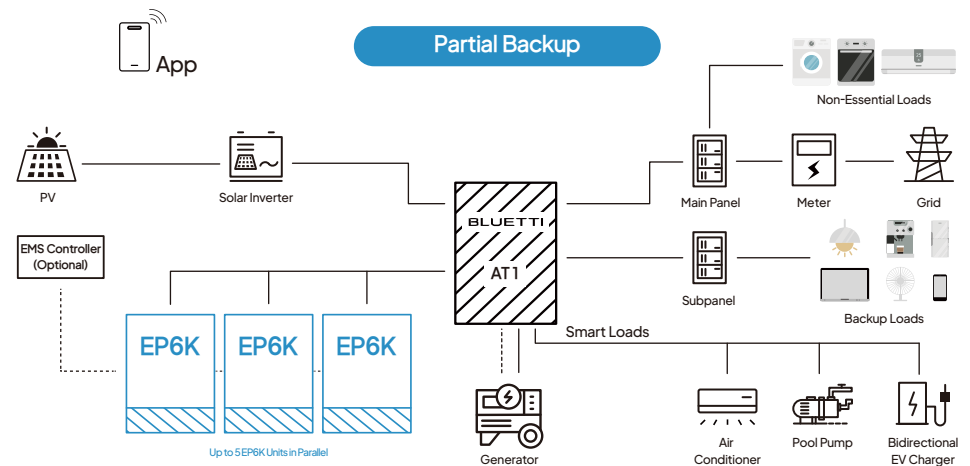
2.3.1 Whole-Home Backup

All household loads, except those on smart circuit, are routed through the main panel to the AT1's backup port. If the grid goes down, the EP6K keeps your entire home stay powered.



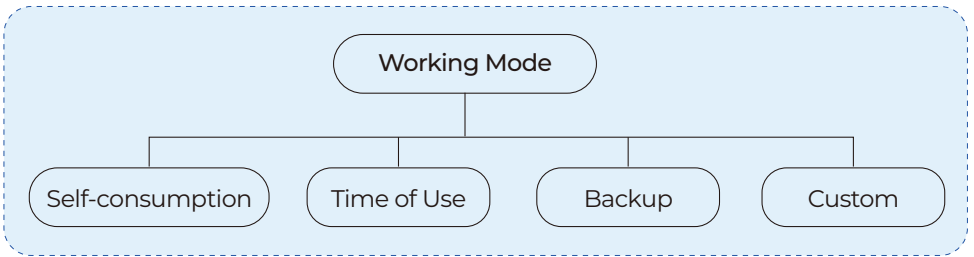
2.3.2 Partial Backup

During setup, select the loads you want to keep running during an outage. Connect them to the AT1's backup port, excluding smart circuit loads. All other loads will be considered as non-essential. When the grid goes down, the EP6K keeps your backup loads powered.



2.4 Working Modes

The EP6K supports both whole-home and partial backup. It provides four working modes that users can select based on their setup and preferences.

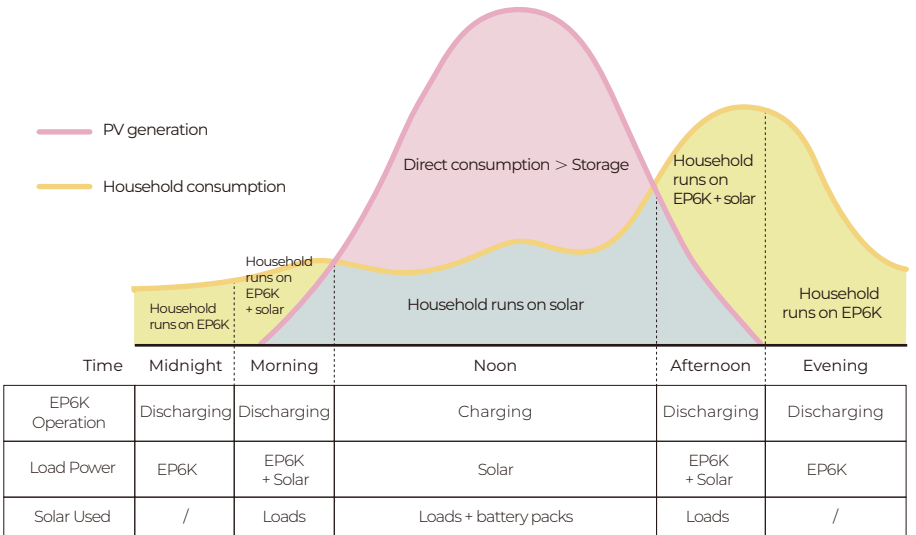


Instruction

The introduction highlights the key features and components of the EP6K. Users can set working modes using the BLUETTI app.

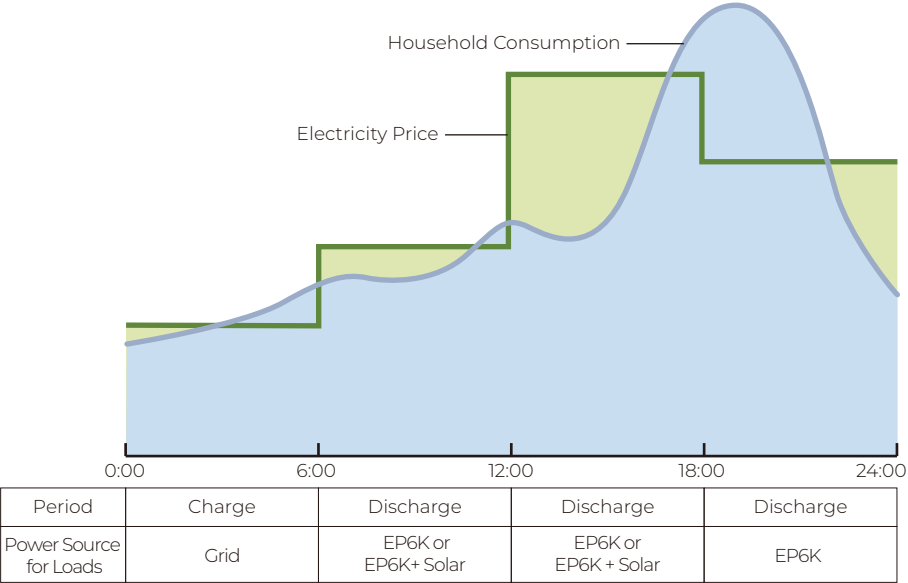
2.4.1 Self-consumption Mode

The EP6K operates by default in a mode that prioritizes using solar energy directly to meet immediate household needs. Any surplus solar energy generated is intelligently stored in battery packs for use during peak hours or in case of a power outage. This approach ensures a reliable and efficient power supply, reducing dependence on the grid and promoting energy independence.



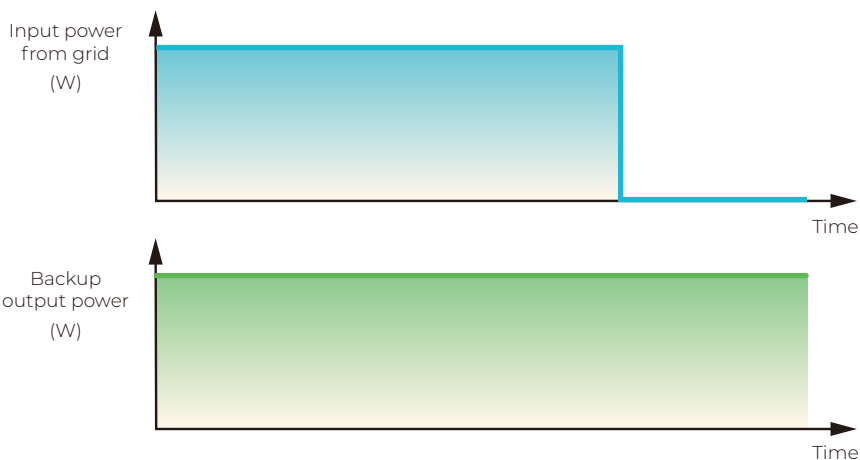
2.4.2 Time of Use Mode

Optimized for regions with varying electricity costs and a reliable power grid, this mode allows users to customize charging schedules. When electricity rates peak, set the system to discharge, using solar and battery power to meet energy needs. Conversely, in low-rate periods, schedule the grid to charge the battery packs while using the solar energy and grid power to supply the needs. Users can also adjust State of Charge (SoC) limits to manage grid power use by the EP6K while preserving battery capacity for solar energy. In off-grid scenarios, rely on solar and battery power to sustain the load.



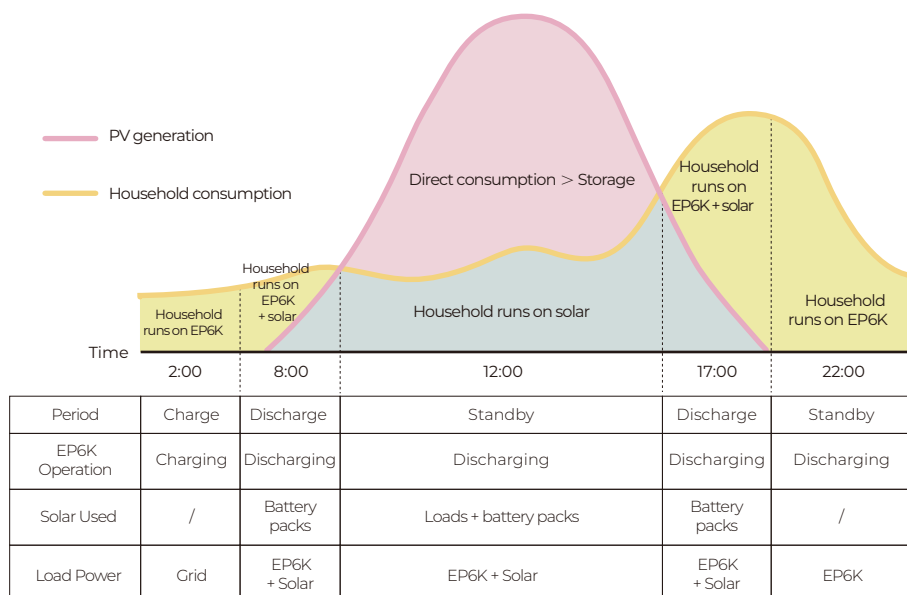
2.4.3 Backup Mode

In this mode, the EP6K acts as a reliable home backup power source that only kicks in when the grid fails. It prioritizes the use of solar energy over the grid to charge batteries, making it an environmentally friendly and sustainable choice for home energy plans. With ample energy reserves, it provides a seamless power supply, perfect for areas with unreliable grids.



2.4.4 Custom Mode

In this mode, users can customize all of the above mode settings to their preferences. To feed the power into the grid, turn on the **Feed Into Grid** switch in the app and set your desired discharge power.



2.5 Key Features

• Extreme Weather Alert

When enabled, the BLUETTI app receives local weather alerts and send real-time warnings. The EP6K automatically switches to backup mode to prepare for possible outages, then returns to normal once the weather clears.

• Automatic Grid Switching

If the grid experiences instability (voltage or frequency issues), the EP6K seamlessly switches to off-grid mode. It powers your household appliances using solar, a generator (if connected), and stored energy. Once the grid is restored, the system automatically reconnects and intelligently balances energy from the grid, solar, and battery to keep your home running smoothly.

• Black Start

If both grid and solar power are unavailable, and the battery is fully drained, the EP6K will disconnect all smart loads and enter sleep mode, awaiting a restart.

a. Auto Black Start

The system will attempt to restart at scheduled times each day. If there's enough sunlight, the battery will charge automatically. If not, the system will return to sleep mode and try again at the next scheduled time.

b. Manual Black Start

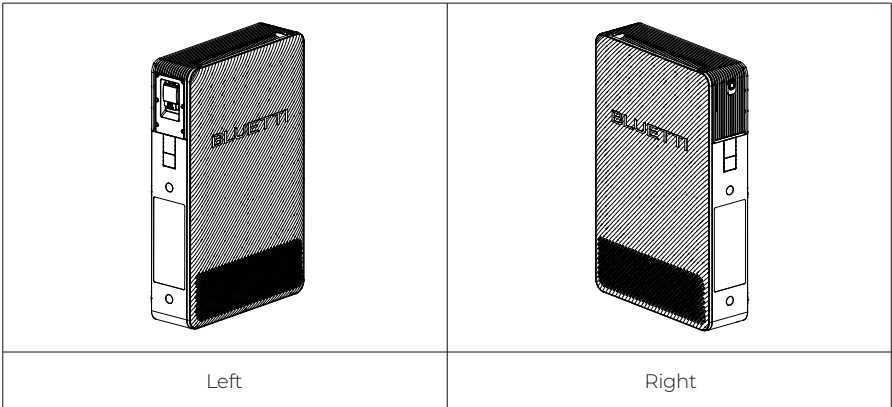
When the solar is sufficient, you can restart the system anytime via the BLUETTI app.

	Attention • Avoid repeated restart attempts, as they may cause the system to lock. For a smoother recovery, make sure all heavy appliances are turned off until the battery reaches at least 20% charge. • If the grid comes back while the system is in sleep mode, it will restart automatically.
---	---

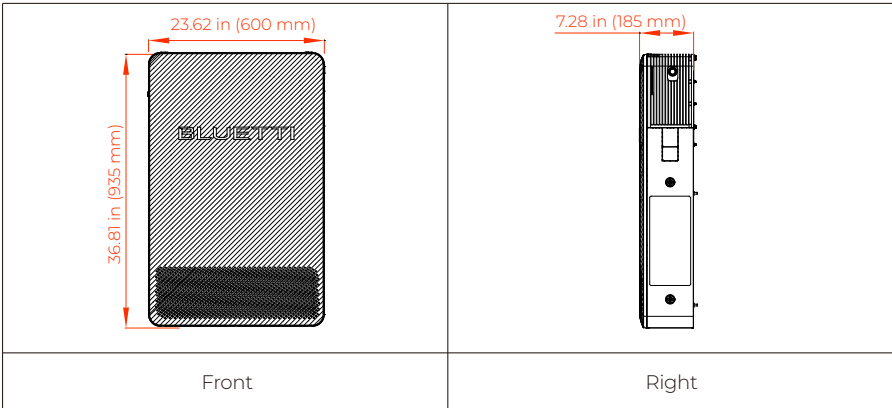
3. EnergyPro 6K

3.1 Overview

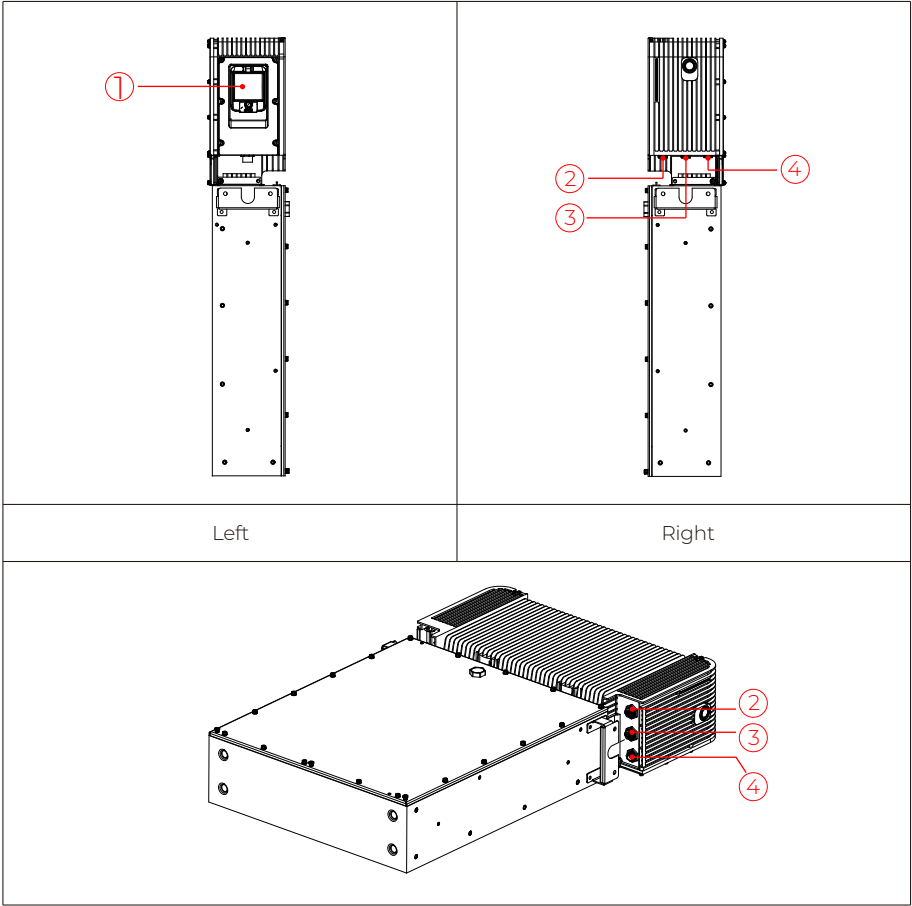
3.1.1 Appearance



3.1.2 Dimensions

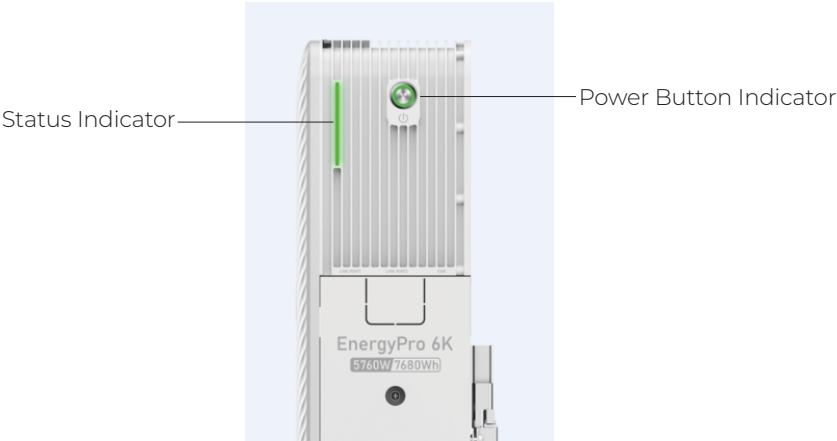


3.1.3 Interfaces



No.	Name	Description
1	AC Breaker	AC connection port
2	Link Port 1	Communication port (for AT1/parallel connection)
3	Link Port 2	Communication port (for AT1/parallel connection)
4	COM Port	Communication port

3.2 LED Indicators



Power Button	Description	Note
Off	Power off	/
Steady	Operating	/
Flashing slowly	Upgrading	Keep the system powered on and perform other operations after firmware update.
Flashing quickly	Alert	Error detected. Check error code in Chapter 10. Troubleshooting and follow the recommended solutions.

Situation	Status Indicator Color
Normal	Green
Alarm	Orange
Fault	Red

3.3 Buzzer Alarm

When a fault occurs, the buzzer emits a series of 3 beeps. Each time lasts for 2 seconds with a 2-second interval between each beep.

Note: The buzzer alarm can be turned off in the BLUETTI app.

Error Code	Description
B008	Hardware Inverter 1 Overcurrent
B009	Hardware Inverter 2 Overcurrent
B010	Hardware DCDC1 Overcurrent
B011	Hardware DCDC2 Overcurrent
B012	Overcurrent in Balance Circuit
B034	Hardware DCDC3 Overcurrent

3.4 Maintenance and Care



Warning

Follow these guidelines for proper operation.

Always power off the system before performing maintenance tasks such as cleaning, checking connections, and verifying grounding. The EP6K requires regular maintenance, including:

- Inspect and clean the fan, fan guard, and heat sink if dust or blockages are present.
- Ensure that the fan operates smoothly without any abnormal noise.
- Check and tighten AC and DC cable connections annually using a torque wrench.

4. AT1 Smart Distribution Panel

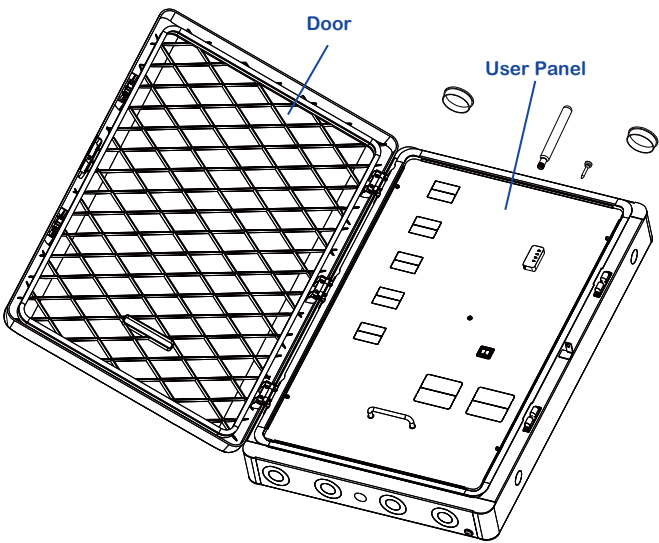
4.1 Introduction

The AT1 smart distribution panel manages your home power system with a built-in energy management system (EMS), along with distribution and communication modules. Additionally, it seamlessly switches to backup power when needed.

Key Features

- Manages energy flow based on your settings.
- Shows input source status.
- Easy control via the BLUETTI app.

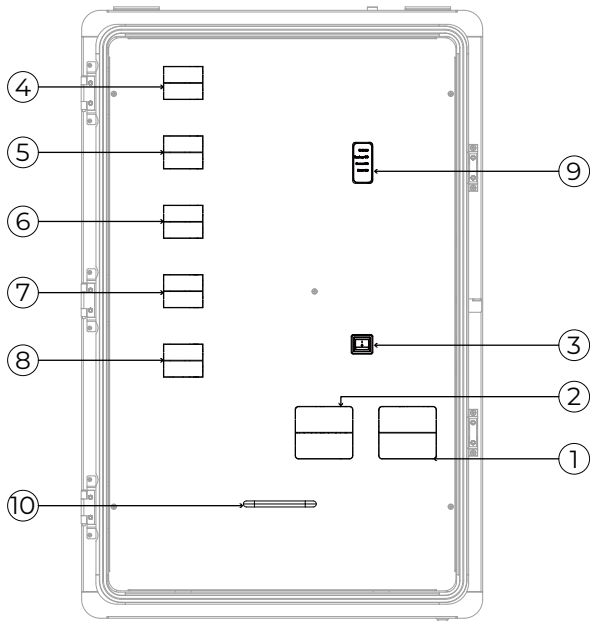
Overview



Instruction

For detailed information, please refer to the *AT1 Smart Distribution Panel User Manual*.

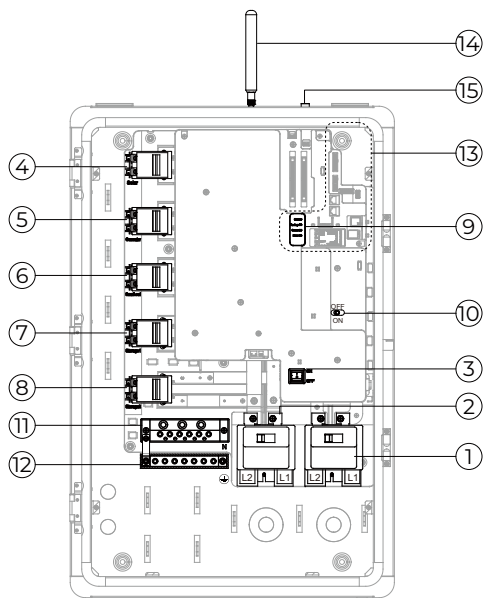
4.2 User Panel



- | | |
|---|----------------------------|
| ① Grid Breaker Slot* | ⑥ Smart Load Breaker Slot* |
| ② Essential Load Breaker Slot* (Backup) | ⑦ ESS Breaker Slot 1* |
| ③ System Switch | ⑧ ESS Breaker Slot 2* |
| ④ AC PV Breaker Slot* | ⑨ Indicators |
| ⑤ Generator Breaker Slot* | ⑩ Panel Handle |

* To install a breaker, remove the knockout first. If unused, leave the knockout in place. If removed by mistake, simply re-cover it with a replacement slot cover (sold separately).

4.3 Electrician Panel

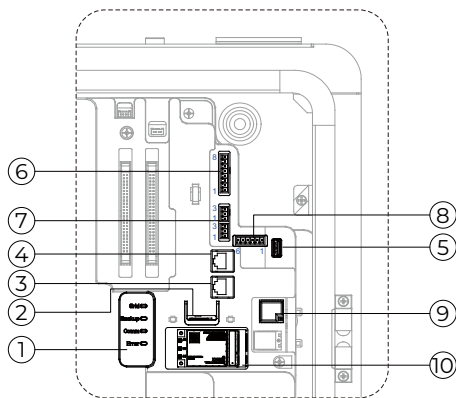


- | | |
|------------------------|------------------------------|
| ① Grid Breaker* | ⑨ Indicators |
| ② Backup Load Breaker* | ⑩ Grid ATS** |
| ③ System Switch | ⑪ Neutral Busbar (N) |
| ④ AC PV Breaker* | ⑫ Ground Busbar (PE) |
| ⑤ Generator Breaker* | ⑬ Signal Panel |
| ⑥ Smart Load Breaker* | ⑭ Wi-Fi & Bluetooth Antenna |
| ⑦ ESS Breaker 1* | ⑮ 4G Antenna Port (Optional) |
| ⑧ ESS Breaker 2 | |

* Provided and installed by a licensed electrician.

** In a power outage, flip the switch to the left to disconnect from the grid.

4.4 Signal Panel



- ① Indicators

② SIM Card Slot

③ ESS COM Port (RJ45)

④ Ethernet Port (RJ45)

⑤ USB Port
- ⑥ Dry Contact Terminal

⑦ RS485 Terminal

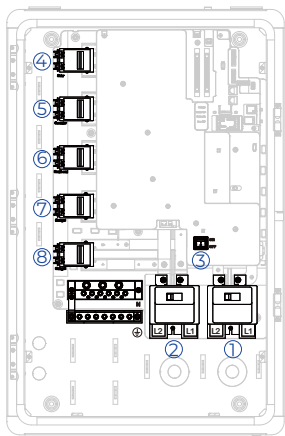
⑧ Digital Signal Terminal

⑨ WiFi & Bluetooth Chip*

⑩ 4G Module*

* External antenna required.

4.5 Breaker Installation



No.	Name
1	Grid Breaker* (Connects to the main panel)
2	Backup Load Breaker*
3	System Switch
4	AC PV Breaker*
5	Generator Breaker*
6	Smart Load Breaker*
7	ESS Breaker 1*
8	ESS Breaker 2*

* Provided and installed by a licensed electrician.

Important Notes

- Install breakers for the AC-coupled solar system (AC PV), generator, smart load, and ESSs based on your setup. **DO NOT** connect their power cables directly to the busbar without a breaker.
- Use the AC PV breaker to connect microinverters to the AT1. Some microinverters may not be fully compatible with BLUETTI systems, please contact BLUETTI support for details.
- Use the generator breaker to connect a generator. Make sure the peak current doesn't exceed 80 A to avoid overload or tripping.
- Use the smart load breaker for smart loads like EV chargers.
- Use the ESS breakers to connect BLUETTI energy storage equipment (e.g., EnergyPro 13K, EnergyPro 6K, Apex 300). For more details, please contact BLUETTI support.
- Install the grid and backup load breakers according to your needs. If not in use, you can directly connect the power cable to the terminal.

Recommended Breaker

Application	Max. OCPD	Recommended Breaker	Recommended Wire Gauge*
AC-Coupled Solar System	20-80 A	Siemens# Q***	2-Pole, 10 kAIC, 240 V
		Siemens# Q***H	2-Pole, 22 kAIC, 240 V
Generator	20-80 A	Siemens# Q***	2-Pole, 10 kAIC, 240 V
		Siemens# Q***H	2-Pole, 22 kAIC, 240 V
Smart Load (ESS 3)	20-80 A	Siemens# Q***	2-Pole, 10 kAIC, 240 V
		Siemens# Q***H	2-Pole, 22 kAIC, 240 V
ESS (ESS 1/ESS 2)	20-100 A	Siemens# Q***	2-Pole, 10 kAIC, 240 V
		Siemens# Q***H	2-Pole, 22 kAIC, 240 V
Backup Load	200 A	Eaton# BW2200	2-Pole, 10 kAIC, 200 A/240 V
		Eaton# BWH2200N	2-Pole, 25 kAIC, 200 A/240 V
Grid	200 A	Eaton# BW2200	2-Pole, 10 kAIC, 200 A/240 V
		Eaton# BWH2200Nz	2-Pole, 25 kAIC, 200 A/240 V

Recommended Wire Gauge

Max. Continuous Current	Max. OCPD	Breaker	Breaker Specs	Recommended Wire Gauge*
16 A	20 A	Siemens# Q220	2-Pole, 10 kAIC, 20 A/240 V	14 AWG
24 A	30 A	Siemens# Q230	2-Pole, 10 kAIC, 30 A/240 V	10 AWG
32 A	40 A	Siemens# Q240	2-Pole, 10 kAIC, 40 A/240 V	8 AWG
40 A	50 A	Siemens# Q250	2-Pole, 10 kAIC, 50 A/240 V	8 AWG
48 A	60 A	Siemens# Q260	2-Pole, 10 kAIC, 60 A/240 V	6 AWG
56 A	70 A	Siemens# Q270	2-Pole, 10 kAIC, 70 A/240 V	4 AWG
64 A	80 A	Siemens# Q280	2-Pole, 10 kAIC, 80 A/240 V	4 AWG
72 A	90 A	Siemens# Q290	2-Pole, 10 kAIC, 90 A/240 V	3 AWG
80 A	100 A	Siemens# Q2100	2-Pole, 10 kAIC, 100 A/240 V	3 AWG
160 A	200 A	Eaton# BW2200	2-Pole, 10 kAIC, 200 A/240 V	3/0 AWG
16 A	20 A	Siemens# Q220H	2-Pole, 22 kAIC, 20 A/240 V	14 AWG
24 A	30 A	Siemens# Q230H	2-Pole, 22 kAIC, 30 A/240 V	10 AWG
32 A	40 A	Siemens# Q240H	2-Pole, 22 kAIC, 40 A/240 V	8 AWG
40 A	50 A	Siemens# Q250H	2-Pole, 22 kAIC, 50 A/240 V	8 AWG
48 A	60 A	Siemens# Q260H	2-Pole, 22 kAIC, 60 A/240 V	6 AWG
56 A	70 A	Siemens# Q270H	2-Pole, 22 kAIC, 70 A/240 V	4 AWG
64 A	80 A	Siemens# Q280H	2-Pole, 22 kAIC, 80 A/240 V	4 AWG
72 A	90 A	Siemens# Q290H	2-Pole, 22 kAIC, 90 A/240 V	3 AWG
80 A	100 A	Siemens# Q2100H	2-Pole, 22 kAIC, 100 A/240 V	3 AWG
160 A	200 A	Eaton# BWH2200N	2-Pole, 25 kAIC, 200 A/240 V	3/0 AWG

* Copper wire required.

4.6 Connecting AT1 to EnergyPro 6K

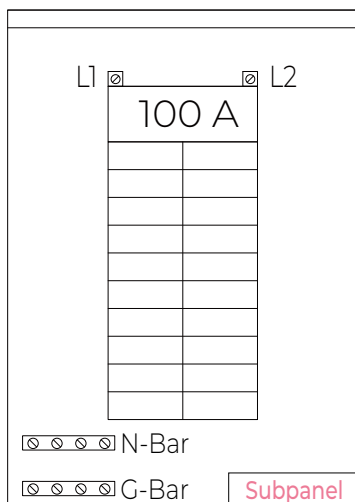
Choose the appropriate breaker and cable based on the maximum current of multiple EnergyPro 6K units connected to the AT1.

ESS Model	Units in Parallel (per branch)	Max. Continuous Current	Max. Over Current Protection Device
EnergyPro 6K	1	24 A	30 A
	2	48 A	60 A
	3	72 A	90 A

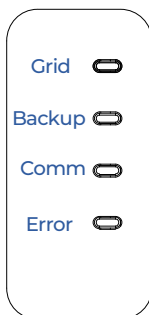


Warning

If multiple EnergyPro 6K units share the same branch, use a backup combiner box with panel-mounted breakers. The total breaker rating must not exceed 100 A.



4.7 LED Indicators



Indicators	Status	Description
Grid (Green)	Steady	Grid power on
	Off	Grid power off
Backup (Green)	Steady	Backup power on
	Off	Backup power off
Comm (Green)	Quick flash with pauses	App Bluetooth connected
	Steady	App cloud connected
	Slow flash	Internet connected, app cloud not responding
	Rapid flash	Internet disconnected
Error (Red)	Rapid flash	Relay issue or protection
	Slow flash	Inverter issue
	Off	Normal operation

5. EMS Controller

5.1 Communication Principle

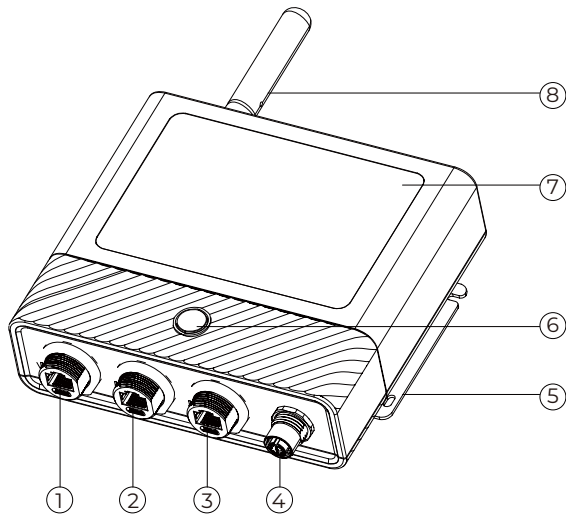
The EMS controller supports WiFi and Bluetooth connectivity, allowing users to monitor the EP6K's operating status via the app. Everything about the system, including power generation and consumption, and alarms, can be uploaded to the BLUETTI server via the WiFi network.

Note: Users need to register a BLUETTI account and scan the EnergyPro 6K's QR code to bind the equipment.

The EMS controller supports the following communication methods:

Communication	Note
WiFi	Standard
Bluetooth	Standard

5.2 Interfaces



No.	Name	Description
1-3	PCS Ports 1-3	Connects to either LINK PORT 1 or LINK PORT 2 on the EnergyPro 6K.
4	Multi-use Port	For RS485 communication with third-party meters and charging stations, as well as external ATS control. Note: Make sure any connected meter is compatible with the inverter.
5	Bracket	For mounting the EMS controller on the wall. Pre-assembled with the EMS controller. Remove it before installing the EMS controller.
6	Alarm Indicator / HOME Button	Steady Green: Normal operation Steady Yellow: Minor alarm Steady Red: Severe alarm Off: Power off During normal operation, press to access the homepage.
7	Touchscreen	View EMS controller status, energy settings, and more.
8	Antenna	For internal WiFi and Bluetooth signal transmission and reception.

Definitions for PCS Ports 1-3

PCS Connector	Function	Description
1	GND	Reference ground for power input
2	9 V-15 V DC	9 V-15 V DC power input
3	CANH	For communication with PCS and BMS
4	CANL	
5	PCS_CANH	For parallel connection of PCS units
6	PCS_CANL	
7	PCS_485A+	
8	PCS_485B-	

Attention: PCS ports 1-3 are RJ45 ports. Do not connect Ethernet cables or other device cables to avoid damage to the equipment.

Definitions for RJ45 Cable

RJ45 Connector (EMS Controller)	Function	9-pin Connector (Inverter)	Description
1	GND	1	Reference ground for power input
2	9 V-15 V DC	2	9 V-15 V DC power input
/	/	3	NC
3	CANH	4	For communication with PCS and BMS
4	CANL	5	
5	PCS_CANH	6	For parallel connection of PCS units
6	PCS_CANL	7	
7	PCS_485A+	8	
8	PCS_485B-	9	

Definitions for Multi-use Port

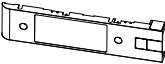
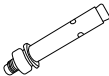
Connector	Function	Description	Note
1	RS485-B2	Charging station RS485 communication	Connects to RS485-B-
2	RS485-A2		Connects to RS485-A+
3	RS485-B1	Meter RS485 communication	Connects to grid meter and AC PV meter RS485-B-
4	RS485-A1		Connects to grid meter and AC PV meter RS485-A+
5	GND	I/O reference ground	For both 9 V-15 V DC output and DRMs input
6	EXT_IN	DRMs signal input	Signal input (floating or connected to I/O reference ground), active low (connect to I/O reference ground for a low level)
7	9 V-15 V DC	9 V-15 V DC/0.2 A output	Power supply for ATS control
8	GEN_NO	SPDT relay NO terminal	I/O control for ATS

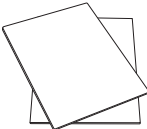
Attention: The multi-use port requires enhanced insulation.

6. System Installation

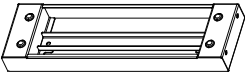
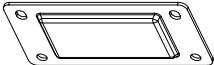
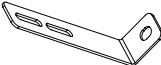
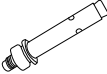
	Danger
	• Disconnect all electrical connections from the equipment. • Do not install the equipment below pipes, windows, or areas prone to water leaks and accumulation.
	Warning
	Do not block ventilation openings or heat dissipation pathways while operating to prevent overheating and fire risks.
	Caution
	When moving the equipment, be mindful of its weight and balance. Take care to avoid tipping or dropping it, as that could result in damage to the equipment or injury.

6.1 EnergyPro 6K Packing List

No.	Picture	Description	Qty.
1		EnergyPro 6K	1
2		Side cover	2
3		M5 × 12 screw	6
4		M8 × 60 expansion bolt (for wall bracket)	6
5		Self-tapping wood screw (for wall bracket)	9

No.	Picture	Description	Qty.
6		Ethernet cable (9.8 ft/3 m, for parallel connection)	1
7		COM connector	1
8		M6 × 8 flat-point hex socket set screw (for grounding)	1
9		Document	1

6.2 Optional Accessories

No.	Picture	Description	Qty.
1		Base	1
2		Base mounting connector	2
3		M6 × 12 screw (for base and wall mounting connectors)	14
4		Wall mounting connector	2
5		M8 × 60 expansion bolt (for base brackets and wall connectors)	4
6		Self-tapping wood screw	4

6.3 Installation Requirements

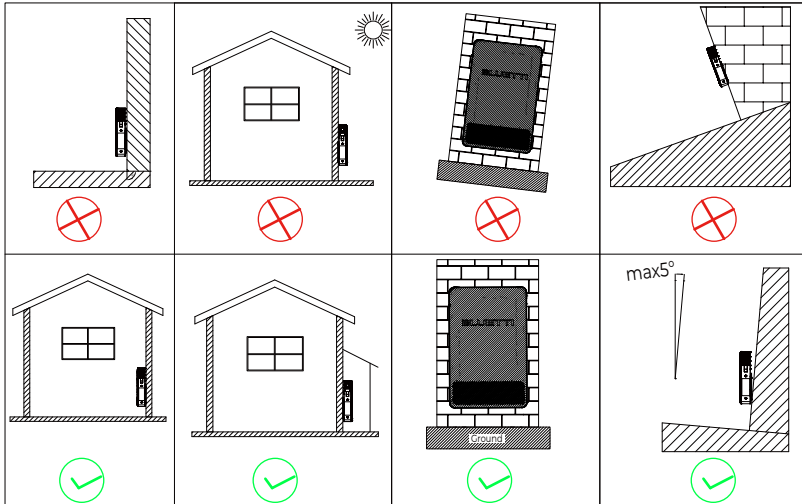
6.3.1 Environment Requirements

- Choose a dry and clean location for installation that has firm ground and avoids clay, soft soil, or sinking areas.
- Do not install the system in low-lying areas prone to water and snow accumulation to prevent water ingress and result in system failure.
- Ensure the installation site is elevated above historical high water levels.
- The EP6K can be installed indoors and outdoors. If installed outdoors, use a high-quality shelter or waterproof cover to protect it from direct sunlight and rain for safe and stable operation.
- The enclosure and heat sink are very hot while the inverter is working, therefore do NOT install it in easily accessible locations.
- Keep the EP6K away from flammable liquids, gases, or explosive materials.
- Keep away from children and pets.
- Install the EP6K in a well-ventilated and spacious area to ensure good heat dissipation.
- Ambient Temperature: -4°F to 122°F (-20°C to 50°C)
 - * Power output decreases above 113°F (45°C).
- Relative Humidity: 5%-95% (non-condensing)
- Max. Altitude: 6,561.68 ft (2,000 m)

	Attention If the EP6K is dropped, violently impacted or tilted during installation, it may result in internal damage. So do not use the equipment to avoid safety risks such as battery leakage and electric shock.
---	---

6.3.2 Location Requirements

- Install the EP6K on a sturdy, flat, and level surface.
- Do not install the system on flammable materials and keep it away from water pipes and cable conduits.
- Consider the weight and placement of components to ensure adequate structural support.

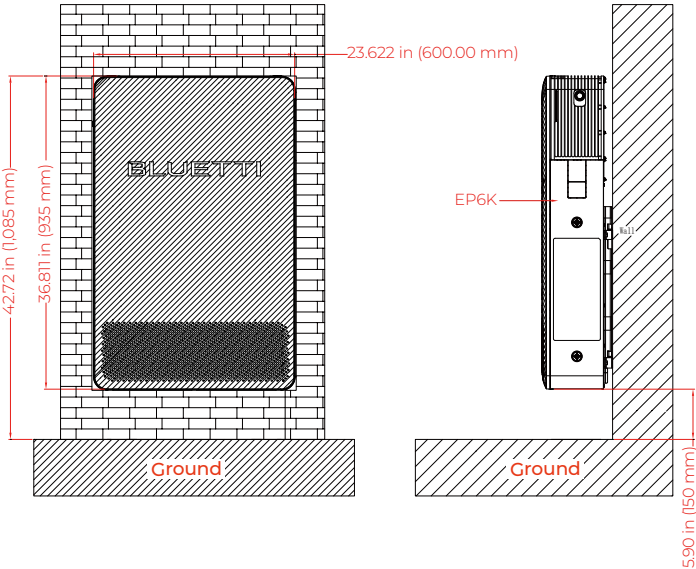
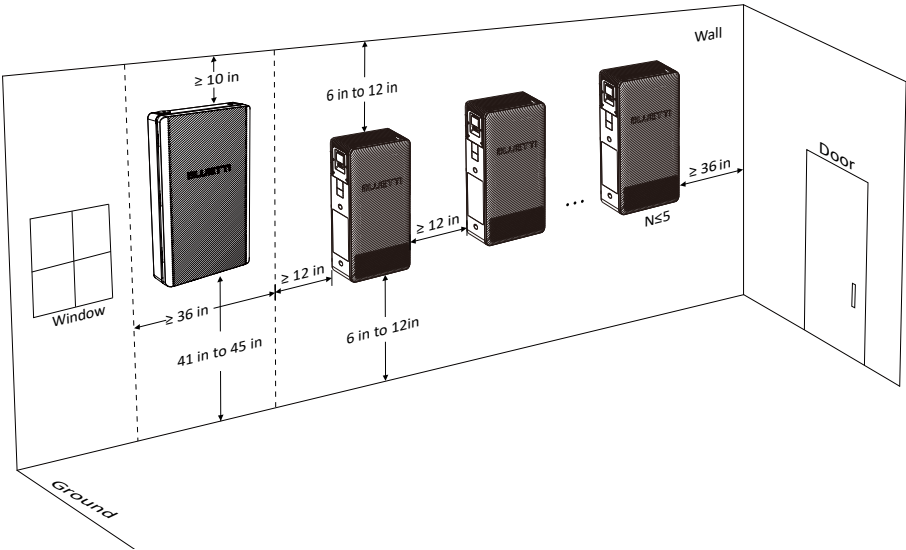


6.3.3 Space Requirements

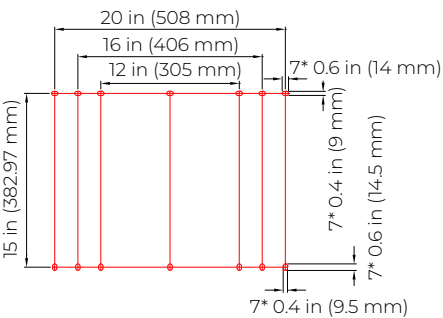
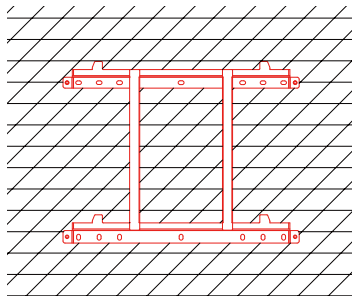
Danger	
	• Make sure to check for any cables or pipes before drilling into the wall. • Avoid placing objects on top of the EP6K, as it requires ventilation for cooling. • Always wear personal protective equipment (PPE) during installation.

Layout Position

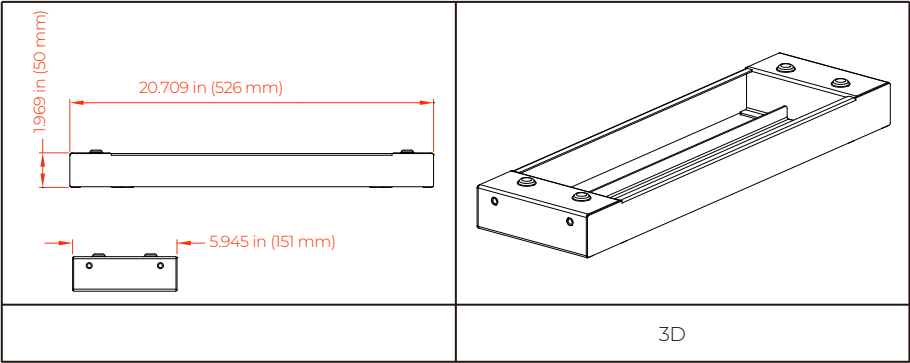
The EP6K installation requires a minimum space of 2,872.22 ft³ (81.36 m³), as shown in the specific space reference below.



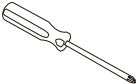
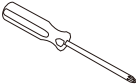
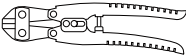
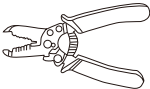
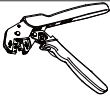
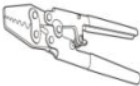
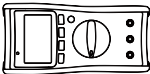
Hole Positions

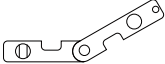
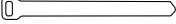


6.3.4 Base (Optional) Dimensions



6.4 Prepare the Necessary Tools

No.	Picture	Description
1		Electric drill (0.197 in/5 mm, 0.315 in/8 mm, 0.394 in/10 mm)
2		Socket wrench set
3		Torque wrench (1.634 in/42 mm)
4		Flat screwdriver
5		Cross screwdriver (0.236 in/6 mm)
6		Cross screwdriver (0.079 in/2 mm) (for COM connector)
7		H3 hex screwdriver
8		Cable cutter
9		Cable stripper
10		Cable crimper (for OT terminal)
11		RJ45 crimper
12		Multimeter (DC voltage $\geq$ 2,000 V)

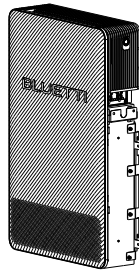
No.	Picture	Description
13		Marker
14		Measuring tape
15		Level
16		Box cutter
17		Heat shrink tubing
18		Heat gun
19		Cable tie
20		Anti-static gloves
21		Protective goggle
22		Mask
23		Safety-toe shoes
24		Vacuum cleaner
25		Rubber hammer

6.5 Wall-Mount Installation

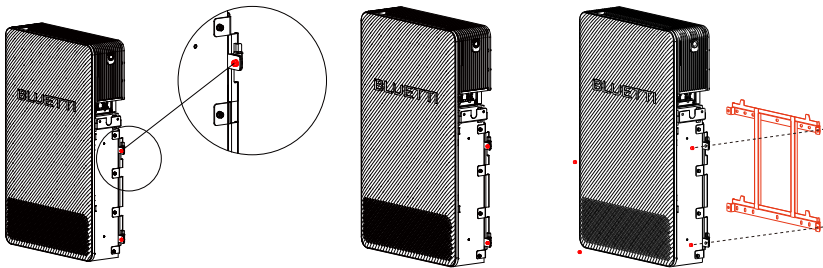
Before installation, make sure the screws are firmly fixed.



Step 1: Lift the EnergyPro 6K out of the box using its side handles and place it near the installation area.



Step 2: Remove the wall mount bracket by unscrewing the two mounting connectors on each side. Set all four screws aside for later.

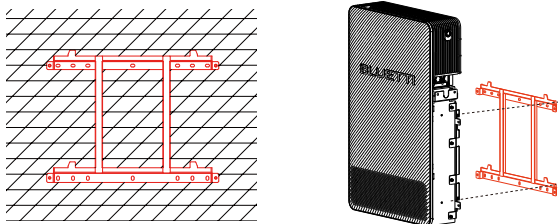


Step 3: Use a level to mark the drill holes, as shown below.

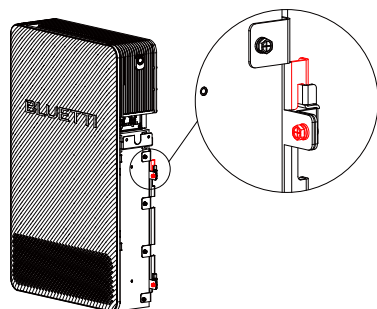
For concrete wall, drill with an M10 bit and insert M8 expansion bolts to fix the wall mount bracket.

For wooden wall, find wall studs and use M8 self-tapping screws instead.

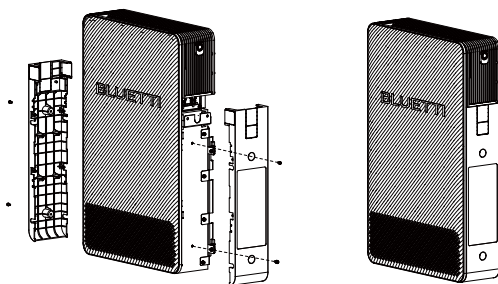
Step 4: Lift the equipment, align it with the wall mount bracket, and gently lower it into place. Make sure it's secure.



Step 5: Secure the side mounting connectors to the wall mount bracket using four M6 × 12 screws—two on each side. Tighten all screws.

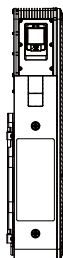


Step 6: Reattach the side covers with M5 × 12 screws.

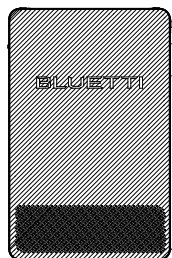


Wall-Mount Views

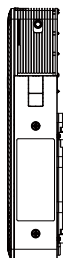
Left



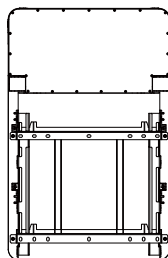
Front



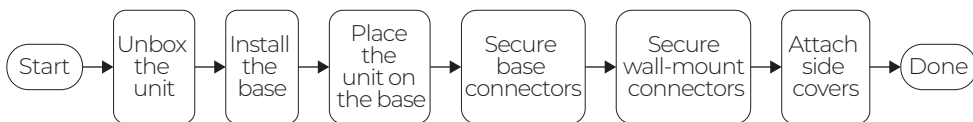
Right



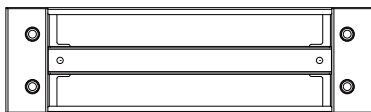
Rear



6.6 Floor-Mount Installation

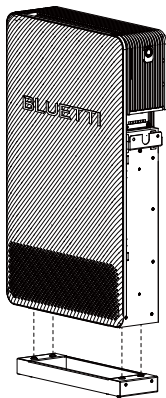


Step 1: Place the base on a flat, level surface at the installation site. Use a level to check for stability.



Step 2: Drill into the floor and secure the base with M8 expansion bolts.

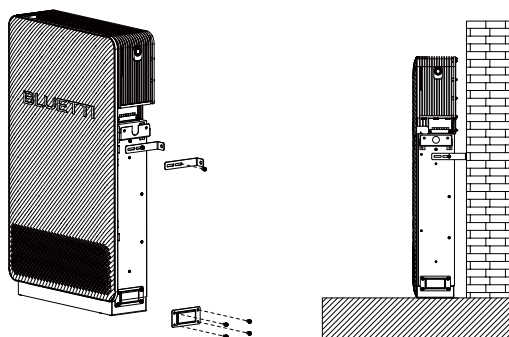
Step 3: Lift the EnergyPro 6K out of the box using its side handles and place it onto the base. Make sure all four recessed feet fit securely onto the raised sections of the base.



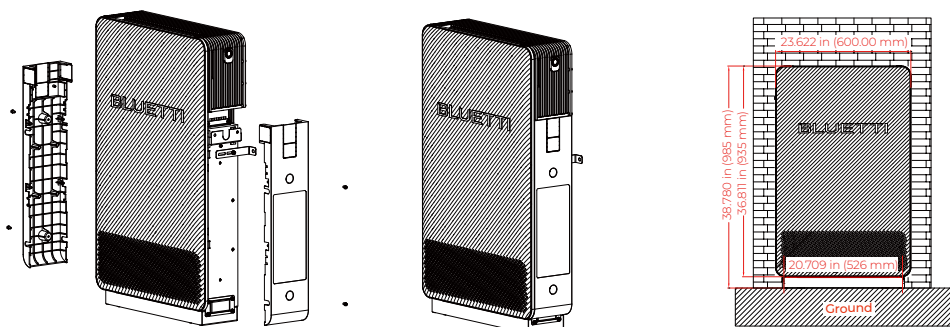
Step 4: Attach the base to the equipment using the base mounting connectors with two M6 × 12 screws.

Step 5: Secure the long side of the wall mounting connector with M6 × 12 screws. Fix the other side to the concrete wall using expansion bolts.

For wooden wall, use M8 self-tapping screws instead.



Step 6: Reattach the side covers with M5 × 12 screws.

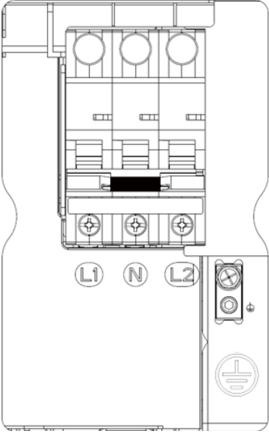


7. Electrical Connection

Before installation or maintenance, make sure both AC and DC sides are powered off.

	Warning • Only authorized personnel should perform the electrical connection. • All cables should be securely connected with proper insulation and meet required standards. • Incorrect wiring may cause damage to the system.
	Attention • Only authorized personnel should perform the installation and maintenance. • Always wear rubber gloves, safety glasses, safety boots, and other protective clothing when handling high-voltage or high-current systems.

7.1 EnergyPro 6K Interface Instructions

Terminal	Description		Cable Required	Cable Specs
	AC Breaker	G	Outdoor multi-core copper cable	10 AWG conductor size; Torque: 2.0 N·m
		L1		
		L2		
		N		

7.2 Preparation

- Step 1:** Make sure the EnergyPro 6K and its wall brackets are fully installed and secure.
- Step 2:** Check that the AT1 is firmly mounted on the wall.
- Step 3:** Ensure the EnergyPro 6K AC breaker, AT1 circuit breaker and all relevant switches in the main panel are turned OFF.
- Step 4:** Keep the packing lists for the EnergyPro 6K and AT1 nearby for reference.

7.3 AC Port



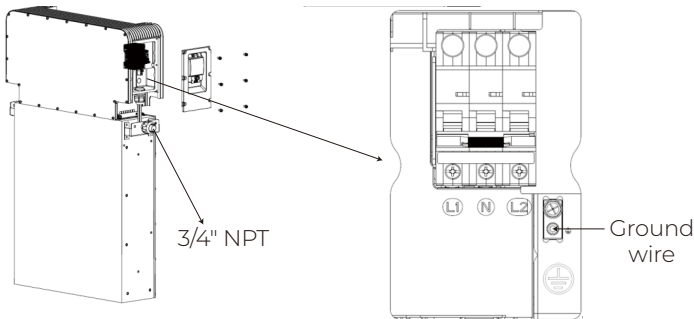
Attention

Cable colors are for reference only. Always follow local wiring codes.

Note: Yellow-green cables must be used for grounding only.

Step 1: Prepare the neutral, live, and ground wires. A 10 AWG 4-core outdoor-rated copper cable (with L1, L2, N, and G) is recommended.

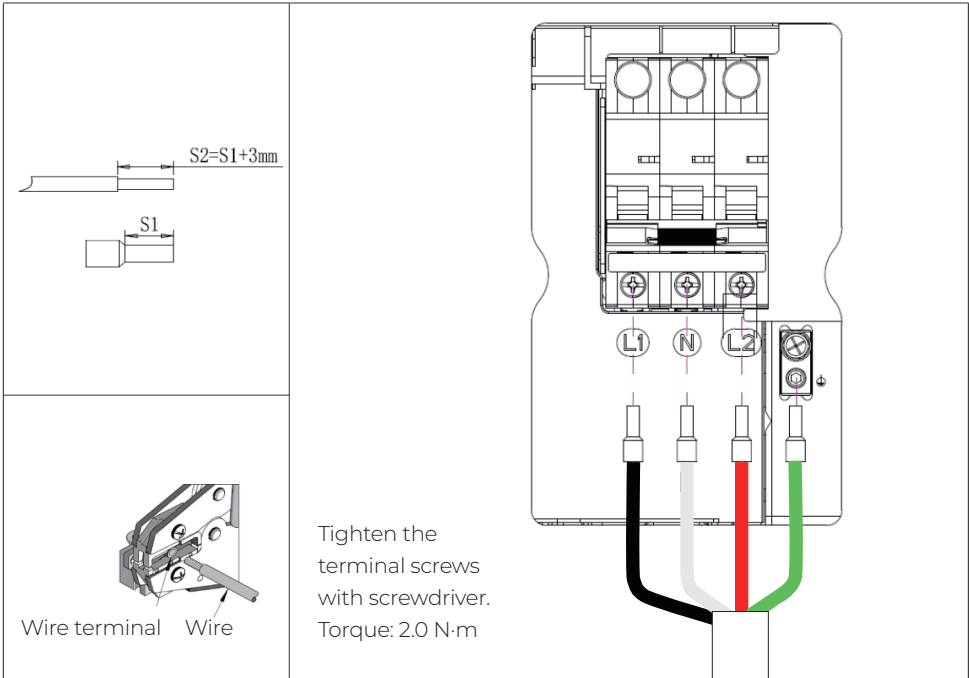
Step 2: Remove the AC breaker cover.



Step 3: Use a cable stripper to remove the outer jacket and insulation, exposing enough of the wire ends for crimping.

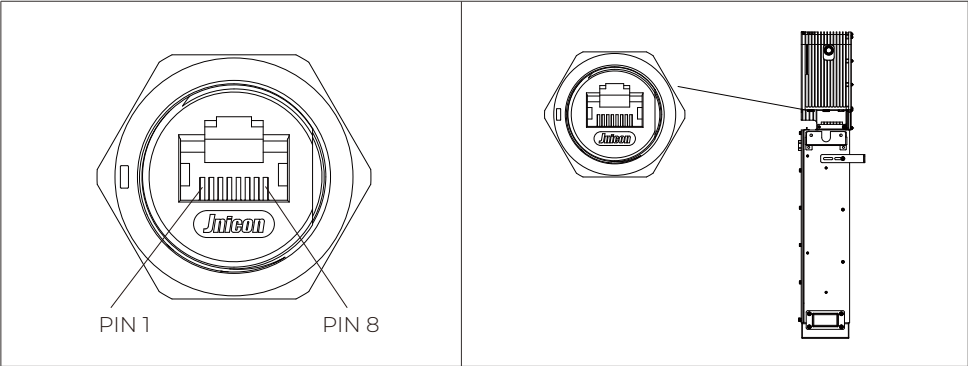
Step 4: Insert the exposed core wires into the wire terminal and crimp them with a crimper.

Step 5: Cover the crimped section with heat shrink tubing or electrical tape.



7.4 Other Ports

7.4.1 Link Port 1

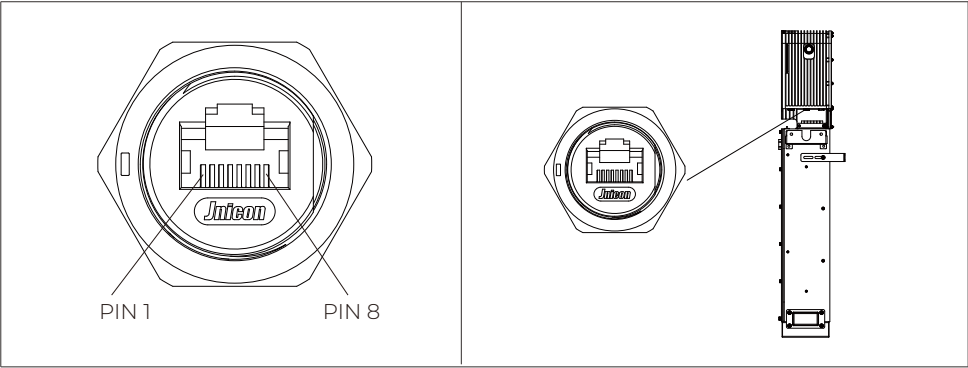


Interface		Function
LINK PORT 1		RJ45 port, for communication with the AT1 and EMS controller
PIN	Category	Description
1	INS_GND	12 Vdc reference ground
2	INS_12V	For powering the AT1 and EMS controller with 12 Vdc output
3	BMS_CANH	For communication with the EMS controller and AT1
4	BMS_CANL	
5	MCANH	For parallel connection of EnergyPro 6K
6	MCANL	
7	485A1	
8	485B1	

Attention

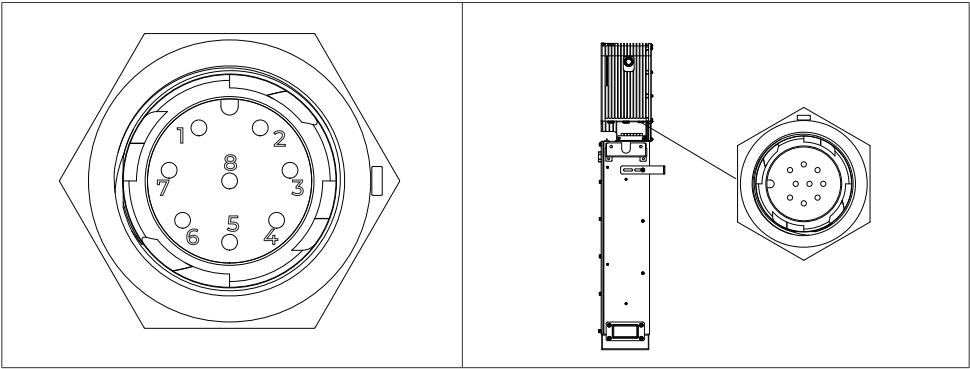
Do not connect Ethernet cables or other device cables to avoid damage to the equipment.

7.4.2 Link Port 2



Interface		Function
LINK PORT 2		RJ45 port, for communication with the ATl and EMS controller
PIN	Category	Description
1	INS_GND	12 Vdc reference ground
2	INS_12V	For powering the ATl and EMS controller with 12 Vdc output
3	BMS_CANH	For communication with the EMS controller and ATl
4	BMS_CANL	
5	MCANH	For parallel connection of EP6K
6	MCANL	
7	485A1	
8	485B1	

7.4.3 COM Port

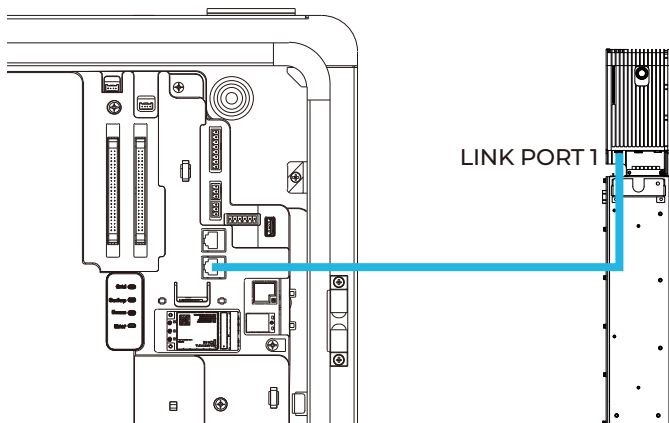


Connector	Category	Definition	Description
1	485B	RS485 Communication	Reserved
2	485A		
3	EXT_OUT	External output I/O	Signal output
4	INS_GND	Reference ground	I/O reference ground for both 12 Vdc output and DRM0 input
5	EXT_IN	DRM0 input	Signal input, active low (connect to signal ground)
6	GEN_COM	SPDT relay common terminal	External DC input limit: 30 Vdc/3 A (For generator input)
7	GEN_NO	SPDT relay NO terminal	
8	/	/	/

7.4.4 Communication Cable

Connecting EnergyPro 6K to AT1

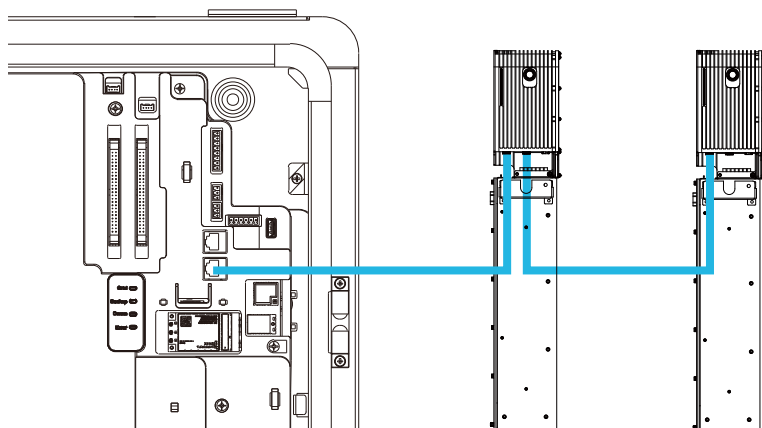
- Step 1:** Use the 10-meter Ethernet cable included with the AT1.
- Step 2:** Plug the RJ45 end into the ESS communication port on the AT1.
- Step 3:** Connect the waterproof connector to LINK PORT 1 on the EnergyPro 6K.

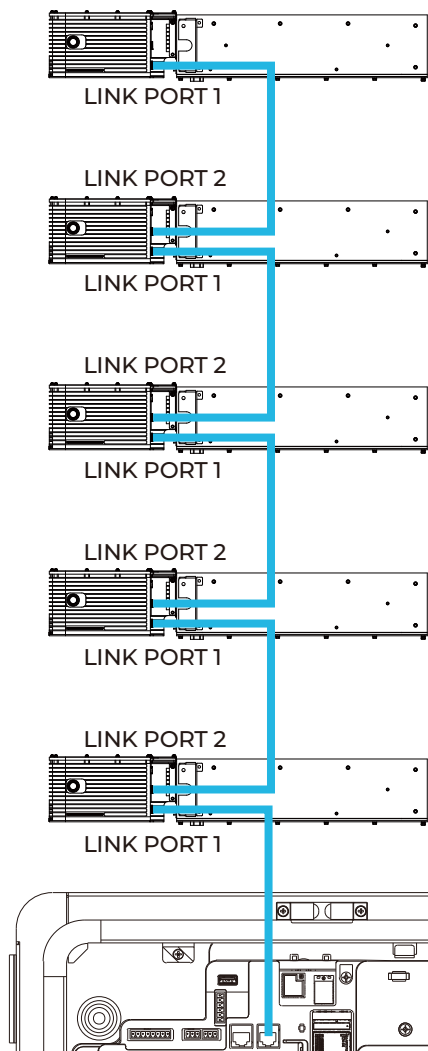


Connecting Two EnergyPro 6K Units

Step 1: Use the included 3-meter Ethernet cable.

Step 2: Connect LINK PORT 2 on the first EnergyPro 6K to LINK PORT 1 on the second. Make sure pin 1 on the cable matches pin 1 on the port.





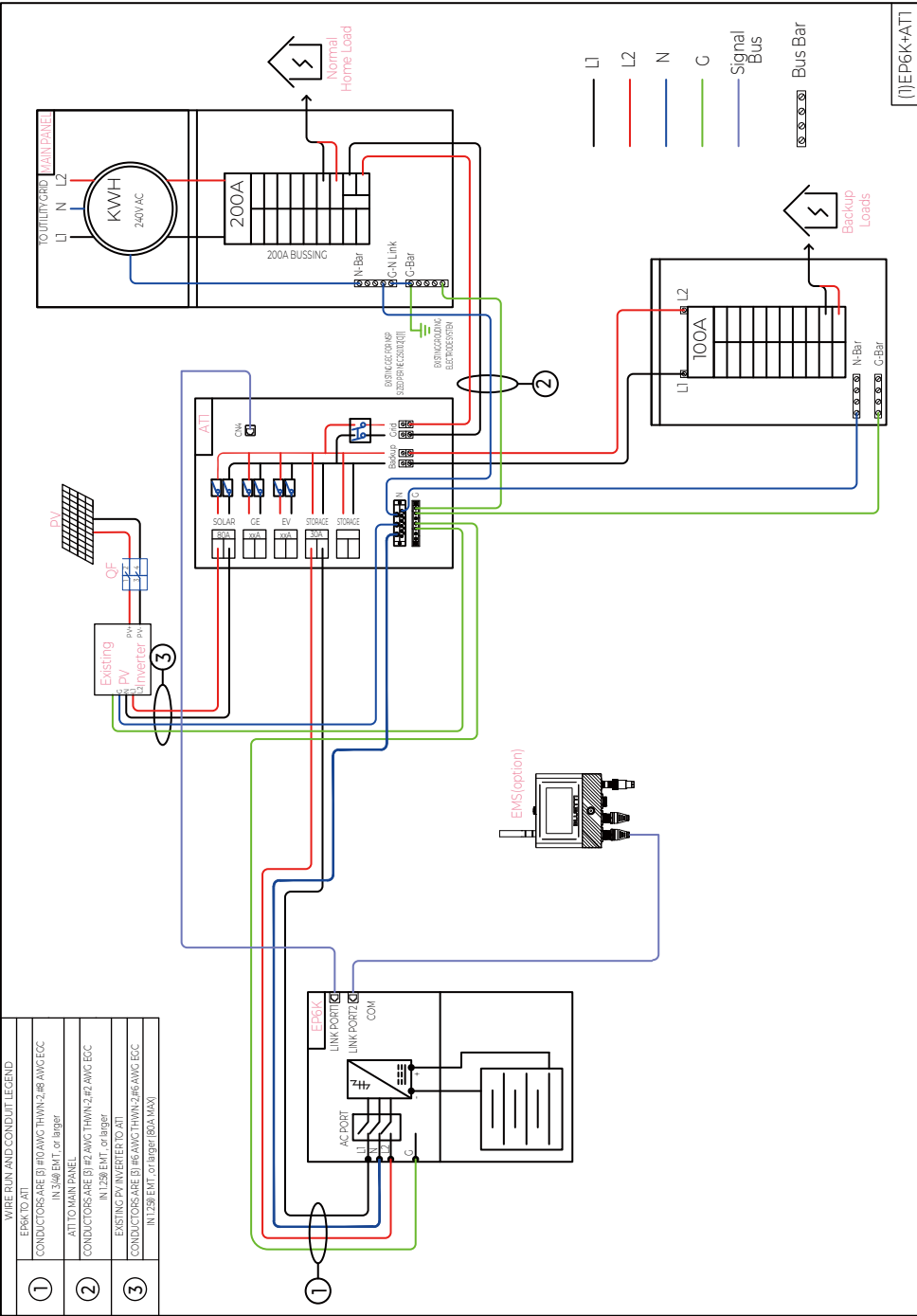
7.5 System Electrical Schematic



Instruction

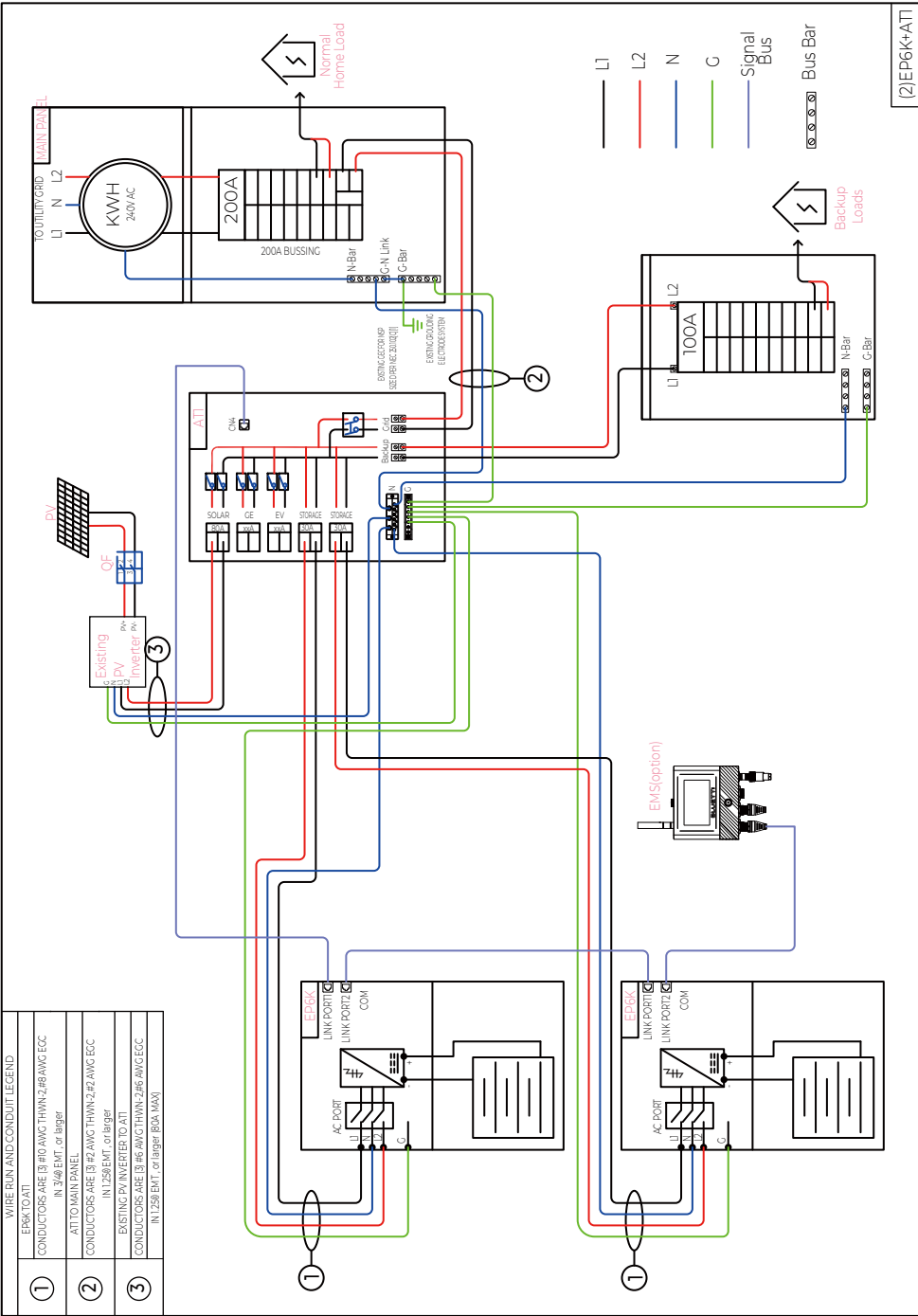
- Refer to the *Quick Installation Guide* for electrical schematic details.
- Check the meter's manual for connection details.
- Connect 2 to 5 EnergyPro 6K in parallel.

WIRE RUN AND CONDUIT LEGEND	
①	EP6K TO ATI CONDUCTORS ARE (1) #10 AWG THWN-2 #6 AWG EGC IN 3/4" EMT, or larger
②	ATI TO MAIN PANEL CONDUCTORS ARE (1) #2 AWG THWN-2 #2 AWG EGC IN 1/2" EMT, or larger
③	EXISTING PV INVERTER TO ATI CONDUCTORS ARE (1) #6 AWG THWN-2 #6 AWG EGC IN 1/2" EMT, or larger (BGA MAX)



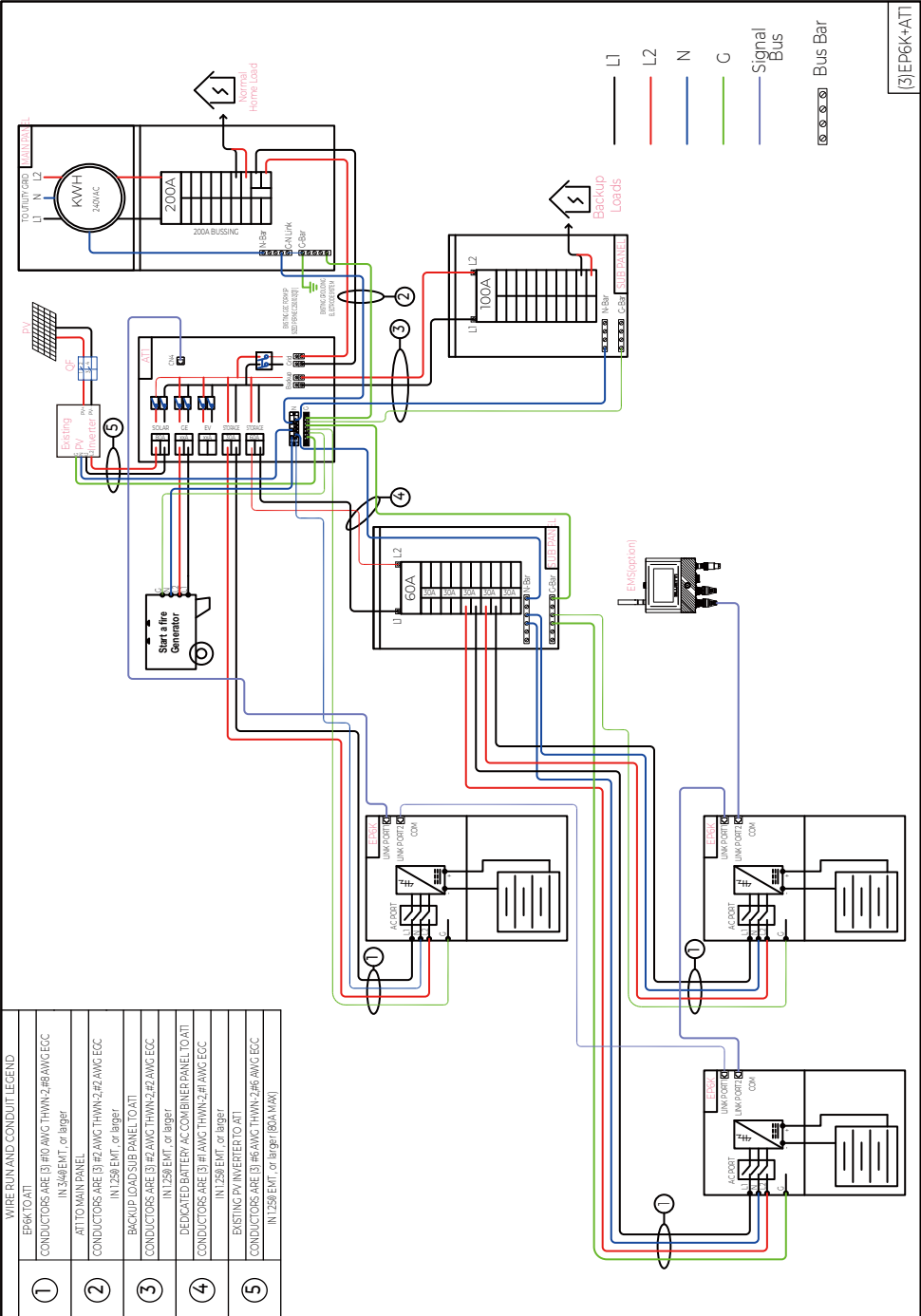
(1)EP6K+ATI

WIRE RUN AND CONDUIT LEGEND	
①	EP6K TO AT1 CONDUCTORS ARE [3 #10 AWG THWN-2 #8 AWG EGC IN 3/4" EMT or larger
②	AT1 TO MAIN PANEL CONDUCTORS ARE [3 #2 AWG THWN-2 #2 AWG EGC IN 125# EMT or larger
③	EXISTING PV INVERTER TO AT1 CONDUCTORS ARE [3 #6 AWG THWN-2 #6 AWG EGC IN 125# EMT or larger [BKA MAX]



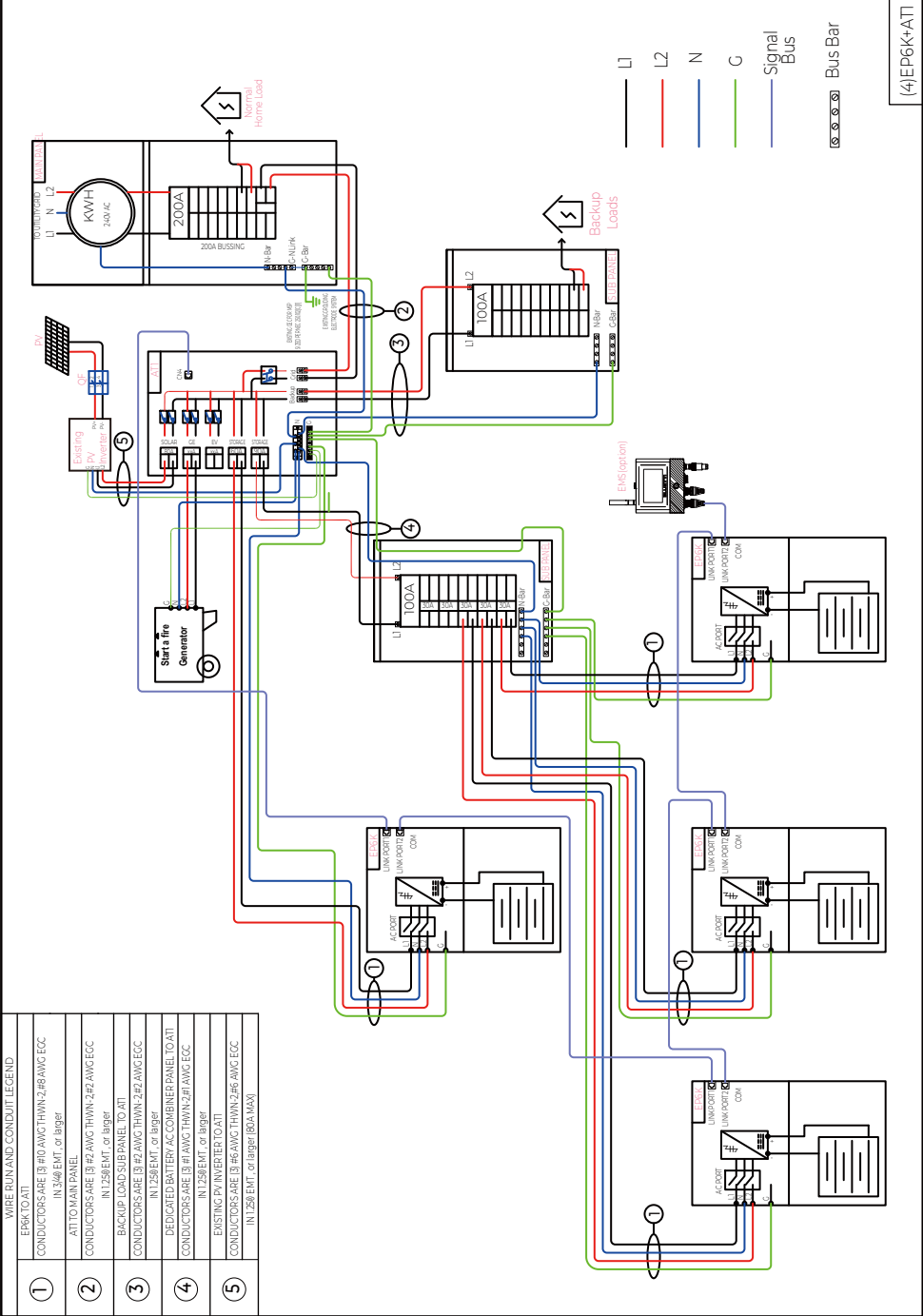
[2]EP6K+AT1

WIRE RUN AND CONDUIT LEGEND	
①	EP6K TO ATI CONDUCTORS ARE [3] #10 AWG THWN-2 #8 AWG EGC IN 1.5" EMT, or larger
②	ATI TO MAIN PANEL CONDUCTORS ARE [3] #2 AWG THWN-2 #2 AWG EGC IN 1.25" EMT, or larger
③	BACKUP LOAD SUB PANEL TO ATI CONDUCTORS ARE [3] #2 AWG THWN-2 #2 AWG EGC IN 1.25" EMT, or larger
④	DEDICATED BATTERY AC COMBINE PANEL TO ATI CONDUCTORS ARE [3] #1 AWG THWN-2 #1 AWG EGC IN 1.25" EMT, or larger
⑤	EXISTING PV INVERTER TO ATI CONDUCTORS ARE [3] #6 AWG THWN-2 #6 AWG EGC IN 1.25" EMT, or larger (80A MAX)



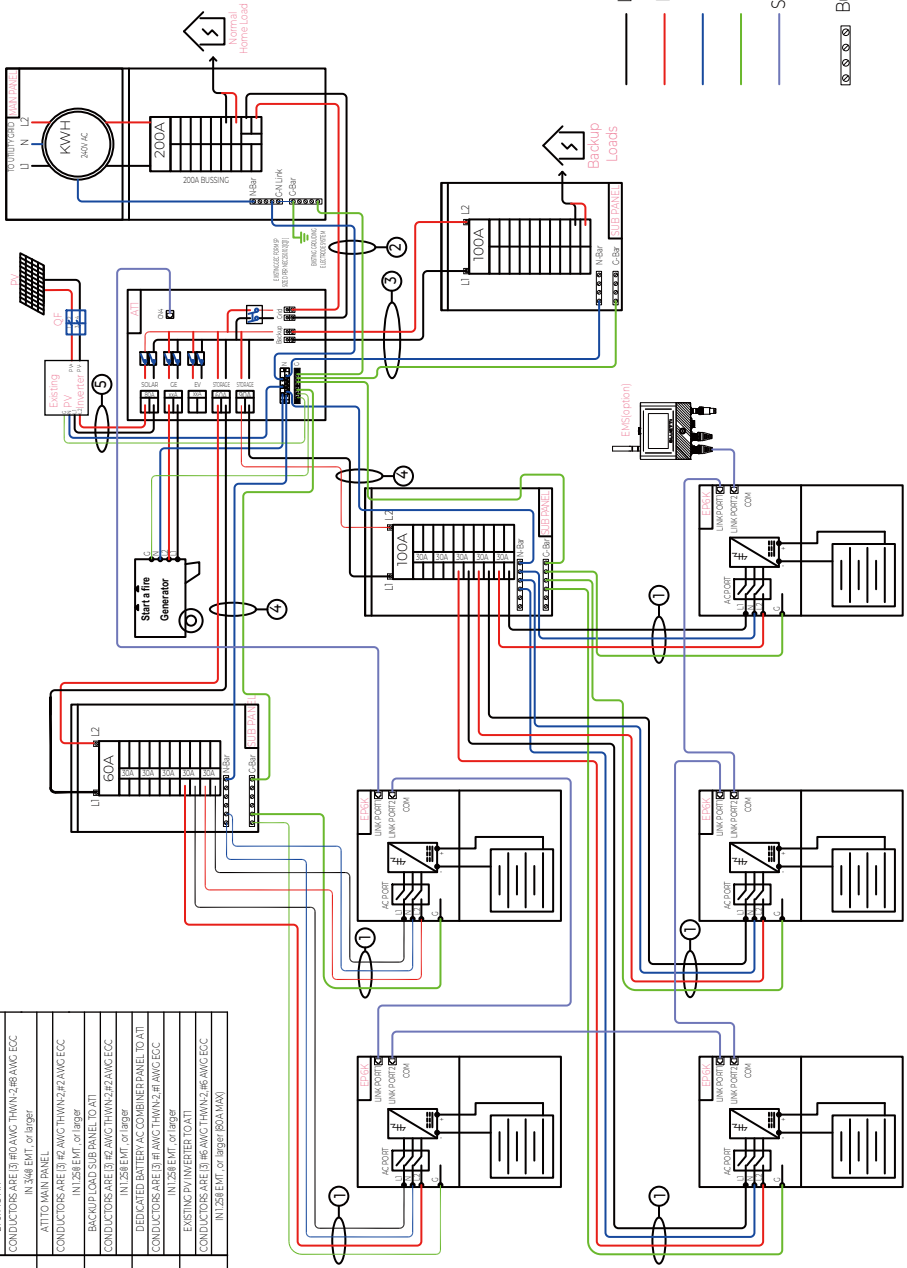
[3]EP6K+ATI

WIRE RUN AND CONDUIT LEGEND	
1	EP6K TO ATT CONDUCTORS ARE [3 #10 AWG THWN-2, 1# AWG ECC IN 3/4" EMT, or larger
2	ATT TO MAIN PANEL CONDUCTORS ARE [3 #2 AWG THWN-2, 2#2 AWG ECC IN 1/2" EMT, or larger
3	BACKUP LOAD SUB-PANEL TO ATT CONDUCTORS ARE [3 #2 AWG THWN-2, 2#2 AWG ECC IN 1/2" EMT, or larger
4	DEDICATED BATTERY AC CONVERTER PANEL TO ATT CONDUCTORS ARE [3 #4 AWG THWN-2, 1# AWG ECC IN 1/2" EMT, or larger
5	EXISTING PV INVERTER TO ATT CONDUCTORS ARE [3 #4 AWG THWN-2, 1# AWG ECC IN 1/2" EMT, or larger (SEE MAX)



(4)EP6K+ATT

WIRE RUN AND CONDUIT LEGEND	
①	EMK TO AIT CONDUCTORS ARE [B #0AWG THWN-2 #R AWG ECC IN 3/4" EMT, or larger]
②	AIT TO MAIN PANEL CONDUCTORS ARE [B #2 AWG THWN-2 #2 AWG ECC IN 1/2" EMT, or larger]
③	BACKUP LOAD SUB PANEL TO AIT CONDUCTORS ARE [B #2 AWG THWN-2 #2 AWG ECC IN 1/2" EMT, or larger]
④	DEDICATED BATTERY AC COMBINER PANEL TO AIT CONDUCTORS ARE [B #1 AWG THWN-2 #1 AWG ECC IN 1/2" EMT, or larger]
⑤	EXTING P.V. INVERTER TO AIT CONDUCTORS ARE [B #6 AWG THWN-2 #6 AWG ECC IN 1/2" EMT, or larger (60A MAX)]



L1
 L2
 N
 G
 Signal Bus
 Bus Bar



Danger

Before making any electrical connections, ensure all switches are set to "OFF" to prevent electric shock.

8. System Commissioning

8.1 Preliminary Check

Before powering up the EP6K for the first time, ensure the circuit breakers of the grid, generator, and solar are powered off. Double check:

- All systems components are installed properly.
- The live and neutral wires are connected securely with proper polarity.
- All communication cables are connected properly and securely.
- The EnergyPro 6K and distribution box breakers are switched **OFF**.
- The distribution box breaker meets this manual's requirements and local regulations.
- Grid and load cables are securely and correctly wired, with a solid grounding connection.
- Safety signs and warning labels are firmly attached and clearly visible.

8.2 Power on

Step 1: For the initial use, ensure the circuit breakers of the grid, generator, and solar are powered off.

Step 2: Press and hold the EnergyPro 6K power button for 3 seconds until the indicator lights up green. Wait for it to stay steady.

Step 3: Switch the EnergyPro 6K AC breaker to **ON**.

Step 4: Turn the AT1 switch to **ON**.

Step 5: When the **Comm** indicator is steady and the **Alarm** light is off, the system is connected and ready.

Step 6: Turn on the smart load breaker (if installed) and the main panel breaker.

Step 7: Switch the installed circuit breakers of the generator and EP6K, as well as the solar circuit breaker to **ON**.

Step 8: Open the BLUETTI app to bind your EP6K. Turn on "System Switch" to check the load voltage. For details, please refer to the *BLUETTI App User Manual*.

Step 9: If grid power is available, flip the grid breaker to **ON**.

Step 10: The **Grid** indicator on the AT1 will turn on, indicating the grid connection is successful.

Step 11: Monitor EP6K status using the BLUETTI app.

8.3 OTA Upgrade

For details, please refer to “Firmware Upgrade” in the *EnergyPro 6K Energy Storage System BLUETTI App User Manual*.

8.4 Power off

- Step 1:** Turn off the System Switch in the BLUETTI app.
- Step 2:** Press and hold the EnergyPro 6K power button for 3 seconds until the indicator goes off.
- Step 3:** Set all AT1 breakers to **OFF**.
- Step 4:** Toggle the AT1 switch to **OFF**, and wait for the indicators to turn off.
- Step 5:** Switch the EnergyPro 6K AC breaker to **OFF**.
- Step 6:** The EP6K powers off.

	Warning The EnergyPro 6K is a battery-powered inverter. For safety, do not touch the AC breaker terminals after shutdown.
	Attention If you're not at home for an extended period, keep both the grid power and the EP6K powered on. Turning them off may deplete the battery over time and prevent the system from restarting.

9. EP6K Disposal

	Danger • Only qualified personnel are allowed to disassemble the system. • Irregular or improper use may result in fire, electric shock, or other hazards.
--	--

9.1 Remove the EP6K

When the EP6K is no longer in use, follow these steps to dispose of it properly:

Step 1: Power off the system. See [Chapter 8.4](#) for details.

Step 2: Unplug all cables connected to EP6K, including communication cables, AC output cables, and grounding cables.

Step 3: Lift the EP6K off the wall bracket carefully to avoid dropping or tipping.

Step 4: Remove all covers and disassemble the EP6K.

9.2 Recycle the EP6K

When the system reach the end of its lifespan, dispose of it safely and responsibly according to local laws and regulations.

Note: Please inform the disposal service to remove the battery compartment first and then disconnect the batteries. Wait for 5 minutes before removing the inverter compartment.



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.

10. Troubleshooting

No.	Error Description	Solution
B001	BUS Overvoltage	Power off the system, wait 30 minutes, then restart. If the issue persists, please contact BLUETTI support.
B002	/	—
B003	BUS Undervoltage	Power off the system, wait 30 minutes, then restart. If the issue persists, please contact BLUETTI support.
B004-B007	/	—
B008	Hardware Inverter Overcurrent	Check the AC side connections. If connections are correct, power off the system, wait 30 minutes, then restart. If the issue persists, please contact BLUETTI support.
B009	Hardware Inverter 2 Overcurrent	

No.	Error Description	Solution
B010	Hardware DCDC1 Overcurrent	Power off the system, wait 30 minutes, then restart. If the issue persists, please contact BLUETTI support.
B011	Hardware DCDC2 Overcurrent	
B012	Overcurrent in Balance Circuit	
B013	Auxiliary Power Undervoltage	
B014	DC Component Exception	
B015	Relay Failure	
B016-B030	/	—
B031	Phase Sequence Failure	Check the AC side connections. If connections are correct, power off the system, wait 30 minutes, then restart. If the issue persists, please contact BLUETTI support.
B032	Fan Failure	Fan malfunction: You can continue to use the product. If you have any other questions, please contact BLUETTI support. Power off the system, wait 30 minutes, then restart. If the issue persists, please contact BLUETTI support.
B033	Zero Drift Abnormal	
B034	Hardware DCDC3 Overcurrent	
B035	Battery Voltage Low	Power off the system and contact BLUETTI support.
B036	Battery Voltage High	
B037	Battery Overcurrent	Power off the system, wait 30 minutes, then restart. If the issue persists, please contact BLUETTI support.
B038-B039	/	—
B040	L1 Inverter Overload	Check if the power rating and load type on the BACKUP block meet specific requirements. If so, power off the system, wait 30 minutes, then restart. If the issue persists, please contact BLUETTI support.
B041	L2 Inverter Overload	
B042	/	—
B043	L1 Inverter Output Failure	Check if the power rating and load type on the BACKUP block meet specific requirements. If so, power off the system, wait 30 minutes, then restart. If the issue persists, please contact BLUETTI support.
B044	L2 Inverter Output Failure	

No.	Error Description	Solution
B045	/	—
B046	Overtemperature Protection	Please contact BLUETTI support.
B047	Communication Failure	Power off the system, wait 30 minutes, then restart. If the issue persists, please contact BLUETTI support.
B048	/	—
B049	DSP Communication Interrupted	Power off the system, wait 30 minutes, then restart. If the issue persists, please contact BLUETTI support.
B050	BMS Communication Interrupted	Check the external communication connections. If properly connected, restart the system. If the issue persists, please contact BLUETTI support.
B051	IoT (EMS) Communication Interrupted	
B052	/	—
B053	RTC Read/Write Exception	Power off the system, wait 30 minutes, then restart. If the issue persists, please contact BLUETTI support.
B054	/	—
B055	Ambient Environment Abnormal	Make sure to use the system within a specified temperature range. If not, move the system to a suitable environment. If the issue persists after a restart, please contact BLUETTI support.
B056	Temperature 1 Abnormal	
B057	Temperature 2 Abnormal	
B058	Temperature 3 Abnormal	
B059	/	—
B060	BMS Charge Protection	Check if the system discharges without grid or solar charging. If not, please contact BLUETTI support.
B061	BMS Discharge Protection	
B062	BMS Powered Off	
B063	Parallel Operation Abnormal	Ensure the parallel communication cables are securely connected. Restart the system. If the issue persists, please contact BLUETTI support.
B064-B065	/	—

No.	Error Description	Solution
B066	DCDC Abnormal	Power off the system, wait 30 minutes, then restart. If the issue persists, please contact BLUETTI support.
B067	BUS Soft Start Abnormal	
B068	Parallel Fault (Duplicate Address)	Open the BLUETTI APP, turn off the main system switch, and confirm whether the parallel settings are correct.. Restart the system. If the issue persists, please contact BLUETTI support.
B069	Parallel Communication Lost	Ensure the parallel communication cables are securely connected. Restart the system. If the issue persists, please contact BLUETTI support.
B070-B073	/	—
B074	AC Pre-charge Timed Out	Power off the system, wait 30 minutes, then restart. If the issue persists, please contact BLUETTI support.
B075	Grid Connection Prohibited	
B076-B096	/	—
B097	Grid Voltage High	• If it occurs occasionally, the grid may go through abnormal working conditions. The inverter recovers after the grid resumes. • If it occurs many times, check if the grid voltage and frequency meet the inverter input requirements. If so, check the inverter AC circuit breaker and wiring. • If the voltage and frequency are beyond the range, please contact BLUETTI support.
B098	Grid Voltage Low	
B099	Grid Frequency High	
B100	Grid Frequency Low	
B101	Grid Oscillation	
B102	Grid Loss	
B103-B108	/	—
B109	Grid Re-connection Abnormal	• If it occurs occasionally, the grid may go through abnormal working conditions. The inverter recovers after the grid resumes. • If it occurs many times, check if the grid voltage and frequency meet the inverter input requirements. If so, check the inverter AC circuit breaker and wiring. • If the voltage and frequency are beyond the range, please contact BLUETTI support.

No.	Error Description	Solution
B110	/	—
B111	Output Voltage Abnormal	If it occurs many times, check if the grid voltage and frequency meet the inverter input requirements. If so, check the inverter AC circuit breaker and wiring. If the issue persists, please contact BLUETTI support.
B112-B128	/	—
B129	EEPROM Read/Write Abnormal	Power off the system, wait 30 minutes, then restart. If the issue persists, please contact BLUETTI support.
B130-B139	/	—
B140	AC PV Meter Communication Abnormal	Check the communication and power wiring for the meter used in the AC-coupled solar setup.
B141-B142	/	—
B143	Data Erasure	The system is performing data erasure. The alert will disappear once completed.
B144-B148	/	—
B149	Grid Meter Communication Abnormal	Check the communication and power wiring for the meter used to support the anti-backflow function.
B150	Battery Charging Prohibited	This is a reminder for the system's charge/discharge capability.
B151	Battery Discharging Prohibited	
P001	Overvoltage	Restart the system. If the issue persists, please contact BLUETTI support.
P002	Charging Overtemperature	Stop using and wait for the system to cool down.
P003	Single Cell Overvoltage	Restart the system. If the issue persists, please contact BLUETTI support.
P004	Charging Temperature Low	Connect to the grid and activate battery heating.
P005	Discharging Overtemperature	Stop using and wait for the system to cool down.
P006	Undervoltage	Charge the system promptly.

No.	Error Description	Solution
P007	Discharging Undertemperature	Stop using and move the system to a warm place.
P008	Single Cell Undervoltage	Charge the system promptly.
P009	Low SoC	
P010-P016	/	—
P017	Overvoltage Protection	Restart the system. If the issue persists, please contact BLUETTI support.
P018	/	—
P019	Battery Cluster Charging Overcurrent Protection 1	Restart the system. If the issue persists, please contact BLUETTI support.
P020	Battery Cluster Charging Overcurrent Protection 2	
P021	Battery Cluster Charging Overcurrent Protection 3	
P022	Charging Overtemperature Protection	Stop using and wait for the system to cool down.
P023	Charging Low Temperature Protection	Connect to the grid and activate battery heating.
P024	Single Cell Overvoltage Protection	Restart the system. If the issue persists, please contact BLUETTI support.
P025	High Charge Protection	
P026-P032	/	—
P033	Undervoltage Protection	Charge the system promptly.
P034	/	—
P035	Battery Cluster Discharging Overcurrent Protection 1	Restart the system. If the issue persists, please contact BLUETTI support.
P036	Battery Cluster Discharging Overcurrent Protection 2	
P037	Battery Cluster Discharging Overcurrent Protection 3	
P038	Discharging Overtemperature Protection	Stop using and wait for the system to cool down.

No.	Error Description	Solution
P039	Discharging Low Temperature Protection	Stop using and move the system to a warm place.
P040	Single Cell Undervoltage Protection	Charge the system promptly.
P041-P048	/	—
P049	Single Cell Voltage Difference Fault	Restart the system. If the issue persists, please contact BLUETTI.
P050	Battery Temperature Difference Fault	
P051	Single Cell Failure	
P052	Low Temperature	Stop using and move the system to a warm place.
P053	Battery Cluster Short Circuit	Stop using it and contact BLUETTI support.
P054-P057	/	—
P058	Power-off Failure	Stop using it and contact BLUETTI support.
P059-P063	/	—
P064	Balancing MOS Failure	Restart the system. If the issue persists, please contact BLUETTI.
P065	Balancing Failure	
P066	/	—
P067	Address Abnormal	Restart the system. If the issue persists, please contact BLUETTI.
P068	Parameter Initialization Abnormal	
P069-P073	/	—
P074	PCS Communication Abnormal	Restart the system. If the issue persists, please contact BLUETTI.
P075	/	—

Item	Error Description	Note
P076	System 5 V Power Module Failure	Restart the system. If the issue persists, please contact BLUETTI.
P077	Heater Failure	
P078	Current Sampling Abnormal	
P079-P096	/	—

11. Specifications

11.1 EnergyPro 6K

Item	Rating	Note
On-Grid		
Rated Output Power	5,760 W	
Nominal AC Voltage	120 VAC/240 VAC	Single Phase/Split Phase
Wiring	L1/L2/N/G	
Rated Current	24 A (RMS)	
Rated Grid Frequency	60 Hz ± 5 Hz	
Power Factor	0.9 leading to 0.9 lagging	
THDi	< 3% (@ full load)	
Round-Trip Efficiency	> 89% (AC/AC)	
Max. Short-Circuit Current	10 kA	
Output Available Fault Current	720 A/53us	
Operating Voltage Range (AC)	-0.9 to 0.9	

Item	Rating	Note
Max. Continuous Output Current (AC)	$(0.88 \text{ to } 1.1) \times V_N$	$V_N = 120 \text{ V}$
Off-Grid		
Rated Output Power	5,760 W	
Nominal AC Voltage	120 VAC/240VAC	L1/L2/N/G
Nominal AC Frequency	60 Hz	
Output Voltage THD	< 3%	Pure resistive load
Overload Capability	10,400 VA (10 s); 6,336 VA (10 min)	
Battery		
Battery Chemistry	LiFePO ₄	
Battery Voltage	76.8 V DC	$3.2 \text{ V} \times 24$
Rated Capacity	7,680 Wh	Charging: 0.5C/3.6 V/0.05C (25°C/77°F) Discharging: 0.5C/2.5 V (25°C/77°F)
Usable Capacity	6,912 Wh	90% DoD, Charging: 0.5C (25°C/77°F) Discharging: 0.5C (25°C/77°F)
Max. Charging Voltage	86.4 V	$3.6 \text{ V} \times 24$
Min. Discharging Voltage	60 V	$2.5 \text{ V} \times 24$
Max. Charging Current	50 A	The continuous input current is affected by temperature and SoC.
Max. Discharging Current	100 A	The continuous output current is affected by temperature and SoC.

Item	Rating	Note
Short-circuit Protection	Yes	
Discharging Overtemperature Protection	132.8°F/56°C	
Discharging Overtemperature Recovery	113°F/45°C	
Discharging Low Temperature Protection	-5.8°F/-21°C	
Discharging Low Temperature Recovery	1.4°F/-17°C	
Charging Overtemperature Protection	123.8°F/51°C	
Charging Overtemperature Recovery	113°F/45°C	
Charging Low Temperature Protection	30.2°F/-1°C	
Charging Low Temperature Recovery	35.6°F/2°C	
Charging Strategy	BMS Orders	CC/CV
Compliance & Certification		
System	UL 9540, UL 1973, UL 9540A, UN 38.3	
Inverter	UL 1741, CSA C22.2, NO. 107.1	
Grid Connections	IEEE 1547, IEEE 2030.5, UL 1741 SB California Rule 21	
Emissions	FCC Part 15 Class B, ICES-003	
Others	NEMA 4X, CEC Efficiency, California Proposition 65	
General		
Operating Temperature	-4°F to 122°F/-20°C to 50°C	Output decreases above 113°F/45°C.
Relative Humidity	0 to 95%	

Item	Rating	Note
Operating Altitude	≤ 6,561.68 ft/2,000 m	
Protection Rating	IP65/NEMA 4X	
Cooling	Natural Cooling	
Noise	< 31 dB	
Self-Consumption	8 W	
No-Load Loss	28 W	
Net Weight	220.46 lbs/100 kg	
Dimensions (W × D × H)	23.6 × 7.3 × 36.8 in/600 × 185 × 935 mm	
Max. Parallel Units	5	Grid-side + off-grid side parallel
Protection	Anti-islanding protection, output overcurrent protection, short-circuit protection	
Display	LED	
Communication	CAN/RS485	
Warranty	10 years*	

* To secure the full 10-year warranty for the EP6K, it must be reliably connected to the Internet to allow remote firmware upgrades from BLUETTI. If an Internet connection is not established or is interrupted for an extended period, and BLUETTI is unable to contact you, the warranty may be limited to 6 years.

11.2 EP6K ESS

Item	Rating				
No. of EMS Controller (Optional)	1				
No. of ATI Smart Distribution Panel	1				
No. of EP6K	1	2	3	4	5
No. of Combiner Box	/	/	1	1	2
System Battery Capacity	7.68 kWh	15.36 kWh	23.04 kWh	30.72 kWh	38.4 kWh
Max. Discharging Power	5.76 kW	11.52 kW	17.28 kW	23.04 kW	28.8 kW
Max. Charging Power	3.8 kW	7.6 kW	11.4 kW	15.2 kW	19 kW

Need Help? We're here for you!

Customer Service (US)

☎ +1 800-200-2980 (Mon-Sun 9:00-17:00) ✉ service@bluettipower.com



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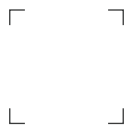
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Certificate

Inspector: _____

QC: _____

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