

BLUETTI AC50B

BLUETTI AC50B Solar Generator User Manual

Model: AC50B | Brand: BLUETTI

1. INTRODUCTION

The BLUETTI AC50B is a versatile and portable solar generator designed to provide reliable power for various applications, including camping, road trips, and emergency power outages. Featuring a 448Wh LiFePO4 battery and 700W AC output (with 1000W Power Lifting capability), it offers a safe, stable, and long-lasting power solution. This manual provides essential information on the setup, operation, maintenance, and troubleshooting of your AC50B unit.



Figure 1: BLUETTI AC50B Solar Generator Overview

2. SAFETY INSTRUCTIONS

Please read and understand all safety instructions before operating the BLUETTI AC50B. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Do not disassemble, repair, or modify the unit. Incorrect reassembly may cause fire or electric shock.
- Do not expose the unit to fire or direct heat.
- Do not use or store the unit in high-temperature environments or near heat sources.
- Do not use or store the unit in wet conditions or near water.
- Ensure proper ventilation during use to prevent overheating.
- Keep out of reach of children and pets.
- Use only original or certified charging cables and accessories.
- Avoid dropping or subjecting the unit to strong impacts.

3. PACKAGE CONTENTS

Verify that all items are included in your package:

- BLUETTI AC50B Power Station
- AC Charging Cable
- Solar Charging Cable
- Car Charging Cable
- User Manual (this document)

4. PRODUCT FEATURES AND COMPONENTS

The BLUETTI AC50B is engineered for efficiency and convenience, offering multiple power outputs and advanced battery management.

6 Ports for You

Charge multiple devices at a time.



2 × 700W
AC Outlets



2 × 65W
USB-C



1 × 15W
USB-A



1 × 120W
Car Port



Figure 2: BLUETTI AC50B with its various ports

4.1. Key Features

- **High Capacity:** 448Wh LiFePO4 battery for extended power.
- **Powerful Output:** 2 x 700W AC outlets (1000W Power Lifting mode for resistive loads).
- **Versatile Ports:** Includes 1 x 15W USB-A port, 2 x 65W USB-C ports, and 1 x 12V/10A car port.
- **Fast Charging:** 0-80% in 45 minutes via 580W AC input (Turbo Charging Mode).
- **Long Lifespan:** LiFePO4 batteries offer 3500+ cycles, providing an almost 10-year lifespan.

- **Advanced Safety:** BLUETTI AI-BMS (Battery Management System) prevents overcharging, short circuits, and ensures optimal performance.
- **Portable Design:** Weighs only 14.8 lbs, making it easy to transport.

Easily Pick up by One Hand

Only 14.8 lbs



Figure 3: The BLUETTI AC50B is lightweight and easy to carry.

4.2. Components Overview

The front panel of the AC50B features a clear LCD display and various input/output ports:

- **LCD Display:** Shows battery level, input/output wattage, and operational status.

- **DC/PV Input Port:** For charging via solar panels or DC adapter.
- **AC Output Outlets:** Standard AC outlets for powering electronics.
- **USB-A & USB-C Ports:** For charging mobile devices, laptops, and other USB-powered gadgets.
- **DC Output Port:** 12V/10A car port for compatible devices.
- **Power Button:** To turn the unit on/off.

5. SETUP

Follow these steps to set up your BLUETTI AC50B for the first time:

1. **Unpack:** Carefully remove the AC50B and all accessories from the packaging.
2. **Inspect:** Check the unit and accessories for any signs of damage. If damaged, do not use and contact customer support.
3. **Initial Charge:** It is recommended to fully charge the AC50B before first use. Connect the AC charging cable to a wall outlet and the unit. The LCD display will show charging status.

6. OPERATING INSTRUCTIONS

6.1. Turning On/Off

Press and hold the main power button for a few seconds to turn the unit on or off. The LCD display will illuminate upon activation.

6.2. Charging the AC50B

The AC50B supports multiple charging methods:

- **AC Wall Outlet:** Connect the AC charging cable to the AC input port and a standard wall outlet. The unit can charge from 0-80% in approximately 45 minutes using Turbo Charging Mode (activated via BLUETTI App).
- **Solar Panels:** Connect compatible solar panels (optional, up to 200W) to the DC/PV input port using the solar charging cable. A full charge can be achieved in about 3 hours with optimal sunlight.
- **Car Charging:** Use the car charging cable to connect the unit to your vehicle's 12V cigarette lighter port.

Ever Fast Charging

Max. 580W Input



AC Charging



PV Charging



Car Charging



AC+PV Charging

0-80% in
45 mins
AC Charging



Figure 4: Fast AC Charging of the BLUETTI AC50B

6.3. Using the Outputs

Once the AC50B is powered on, you can activate specific output groups:

- **AC Output:** Press the 'AC' button to enable the AC outlets. Plug in your devices (e.g., laptops, small appliances). Ensure total wattage does not exceed 700W (or 1000W in Power Lifting mode for resistive loads).
- **DC Output:** Press the 'DC' button to enable the 12V car port.
- **USB Output:** The USB-A and USB-C ports are typically always active when the unit is on.

It's for Short Trips

448Wh / 700W



17 Times
Phone (10Wh)



15 Hours
Lamp (12W)



5.7 Hours
Mini-Fridge (60W)



40 Min
Kettle (500W)



Power Lifting*: 1000W

*Suitable for pure resistive loads like kettles, electric blankets, etc.

Figure 5: The AC50B provides power for various devices on short trips.

6.4. BLUETTI App Control

Download the official BLUETTI App to remotely monitor and control your AC50B via Bluetooth. The app allows you to:

- View real-time power consumption.
- Check battery status and remaining runtime.
- Activate Turbo Charging Mode.

- Perform firmware updates (OTA).

7. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your AC50B.

7.1. Battery Care

- **Regular Use:** For optimal battery health, use and recharge the unit at least once every 3-6 months.
- **Storage:** Store the unit in a cool, dry place away from direct sunlight and extreme temperatures. For long-term storage, maintain a charge level between 50% and 80%.
- **Charging Habits:** Using 'Silent Charging' mode (lower wattage) can extend the battery's overall lifespan compared to frequent 'Turbo Charging'.

Reliable and Long-Lasting

Your trusted power solution

LFP **10 Year**
Batteries **Lifespan**



BLUETOPUS
AI BMS



Grounding
in Safety



* Original capacity remains 80% after 3,000+ cycles,
6-8 times longer than conventional batteries.

Figure 6: LiFePO4 batteries and BLUETTI AI-BMS ensure reliability and long life.

7.2. Cleaning

Wipe the exterior of the unit with a soft, dry cloth. Do not use abrasive cleaners or solvents.

8. TROUBLESHOOTING

If you encounter issues with your BLUETTI AC50B, try the following steps:

- **Unit Not Turning On:** Ensure the battery is not completely depleted. Try connecting to an AC outlet for a few

minutes.

- **No Output Power:** Check if the specific output group (AC/DC) is enabled. Ensure the connected device's power consumption does not exceed the unit's rated output.
- **Charging Issues:** Verify that all charging cables are securely connected. Check the power source (wall outlet, solar panel, car port) is functioning correctly.
- **Overload Protection:** If the unit shuts down due to overload, disconnect some devices and restart the unit.
- **App Connectivity:** Ensure Bluetooth is enabled on your smartphone and the AC50B is within range. Restart the app and the AC50B if connection issues persist.

For persistent issues, please refer to the Warranty and Support section.

9. SPECIFICATIONS

Specification	Detail
Model Name	BLUETTI AC50B
Battery Type	LiFePO4
Capacity	448Wh
AC Output	2 x 700W (1000W Power Lifting)
USB-A Output	1 x 15W
USB-C Output	2 x 65W
Car Port Output	1 x 12V/10A
AC Input (Max)	580W
Solar Input (Max)	200W
Dimensions (L x W x H)	11" x 7.9" x 8.7"
Item Weight	14.8 lbs
Lifespan	3500+ cycles to 80% capacity

10. WARRANTY AND SUPPORT

BLUETTI stands behind the quality of its products.

- **Warranty:** The BLUETTI AC50B comes with a 5-year warranty. Please retain your proof of purchase for warranty claims.
- **Customer Support:** For any questions, technical assistance, or warranty inquiries, please contact BLUETTI customer service through their official website or the contact information provided in your purchase documentation. BLUETTI has widespread sales and after-service networks to assist you.

