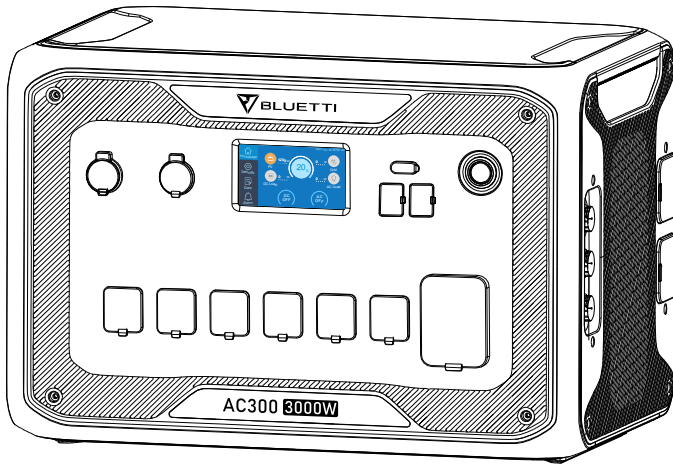




AC300 Portable Power Station

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



User Manual

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

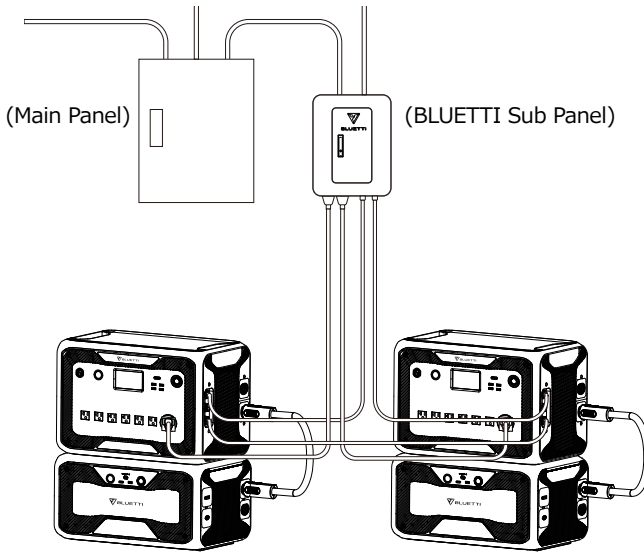
Contents

01. AC300 INTRODUCTION	01
02. GENERAL SAFETY INSTRUCTIONS	02
03. IN THE BOX	05
04. APP USER GUIDE	07
05. FEATURES OF AC300	11
06. STARTUP & POWER OFF	11
07. USER INTERFACE	12
08. HOW TO RECHARGE AC300+B300 (INPUT) ..	19
09. DISCHARGE (OUTPUT)	26
10. UPS	28
11. SPLIT PHASE FUNCTION	33
12. TECHNICAL SPECIFICATION	36
13. STORAGE AND MAINTENANCE	38
14. TROUBLESHOOTING	38
15. FAQ (Frequently Asked Questions)	44
16. DECLARATION	45
17. FCC WARNING	45

01. AC300 INTRODUCTION

1.1. Introduction

- The AC300 uses a dual-core controller (ARM controller + DSP controller) which combines digital and analog signals perfectly to manage and control the MPPT module, the AC Inverter module which uses a bidirectional topology supporting AC reverse fast charging, and the DC-to-DC module. The AC300 does not have a built-in battery pack, requires at least one B300 connected, and supports up to four B300 battery packs connected.
- This product integrates a solar charge controller, AC charge controller, AC inverter, lithium battery and battery management system into one. It converts clean and environmentally friendly solar energy and grid electricity into clean electricity and sends it to all of your connected loads.



(AC300 grid-tie home power back-up system)

1.2. Abbreviation

- BMS: Battery Management System
- MPPT: Maximum Power Point Tracking
- UPS: Uninterruptible Power Supply
- AC: Alternating Current
- DC: Direct Current

- PV: Solar Panel(s) Charging (Photovoltaic)
- Grid: Home Power Supplied by Utility
- T500: 500W Charger
- DOD: Depth of Discharge
- ECO Mode: A power saving mode for the AC300+B300. The AC output ports are automatically turned off if the load is less than 30W over a span of 4 hours.

02. GENERAL SAFETY INSTRUCTIONS

Please read this manual before operating.

- A licensed electrician is required to install the grid-tie power system as it involves connecting the wires of critical loads from your main electrical box to the BLUETTI Sub Panel (Optional Purchase).
- DO NOT place the power station near heat sources. It is prohibited to place the equipment in an environment with flammable, explosive gas, or smoke. It is also prohibited to operate the equipment in this environment.
- DO NOT attempt to replace the internal battery or any other component of the equipment by anyone other than authorized personnel. There are no enduser serviceable components.
- DO NOT operate in wet conditions. If the equipment becomes wet, please let the unit dry completely before using.
- Please ensure proper ventilation while in use and do not obstruct fan openings. Inadequate ventilation may cause permanent damage to the equipment.
- DO NOT stack anything on top of the power station while in storage or while in use.
- DO NOT move the unit while operating as vibrations and sudden impacts may lead to poor connections to the hardware inside.
- Warning: DO NOT insert foreign objects into any ports of the AC300+B300 (both AC & DC & ventilation holes). The power station generates the same potentially lethal AC power as a household wall outlet. Please use carefully and keep children away from it.
- If necessary, only dry powder fire extinguisher is suitable for the product.
- For safety purposes, please use only the original charger and cables designed for the equipment. We are not liable for damage caused by third-party equipment and may render your warranty, invalid.

2.1. Installation (for grid-tie system)

- Before touching any conductor surface or terminal, measure the voltage of the contact point to confirm that there is no danger of electric shock.
- After the equipment is installed, empty packaging materials such as cartons, foam, plastic, cable ties, etc. should be removed from the equipment area.
- Except for those who operate the equipment, please keep others away from operating AC300.
- The handling of any tools being used needs to be insulated and protected from shock, or use insulated tools.
- All wiring holes need to be sealed. Use fire-resistant mud to seal the wiring holes that have been routed and use the cover of the cabinet.
- It is strictly forbidden to alter, damage or obscure the logo and nameplate on the equipment.
- When installing the device, please use the appropriate tools to tighten any screws.
- Live operation is strictly prohibited during installation.
- Paint scratches during equipment transportation and installation must be repaired in a timely manner. Long-term scratches are strictly prohibited and may cause damage.
- Before operation, the equipment should be secured onto a floor or other stable objects, such as walls or possibly mounting brackets if needed.
- It is prohibited to clean any electrical components inside and outside the cabinet with water.
- Do not change or modify the structure, installation sequence, etc. of the equipment without prior authorization.

2.1.1. Personal Safety

- During the operation of the equipment, if a malfunction that may cause personal injury or equipment damage is found, it should be powered off immediately.
- DO NOT power on the device if the device has not been properly installed or confirmed by all relevant personnel.

2.1.2. Personnel Requirements

- The personnel responsible for the installation and maintenance of the equipment must first undergo rigorous training to understand various safety

precautions and grasp the correct method of operation.

- Trained personnel: personnel who have undergone corresponding technical training and have the necessary experience to be aware of the danger that may be brought to him during the operation, and can take measures to reduce the danger to himself or other personnel to at the lowest limit.
- The replacement of equipment or parts (including software) must be done by professionals or authorized personnel.

2.1.3. Anti-static requirements

When installing the sub-panel with your main panel, you must wear anti-static gloves or an anti-static wrist strap before touching the device. The other end of the anti-static wrist strap should be properly grounded. Do not touch any bare components directly with your hands.

2.1.4. Drilling

The following safety precautions are to be considered when drilling holes on the wall or into the ground:

- It is strictly forbidden to drill holes into the equipment. Drilling will alter and damage the electromagnetic shielding performance of the equipment, internal components, and cables. The risk of metal shavings entering the device can cause short circuits on the circuit board.
- Wear goggles and protective gloves when drilling holes.
- The equipment should be shielded and protected during the drilling process to prevent debris from falling into the equipment. After drilling, any debris which may have landed on the equipment should be removed and cleaned on time.



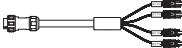




2.2. Installation environment requirements

- When the equipment is running, please do not block the vents or the heat dissipation system in order to prevent high temperatures and/or fires.
- The equipment should be installed in an area away from liquids. It is forbidden to install it near or below water pipes, air outlets and other locations that are prone to water condensation.
- It is forbidden to install the unit underneath pipes, windows or other similar areas that are prone to water leaks in order to prevent liquids from entering into the equipment. Failure to do so may result in a short circuit.




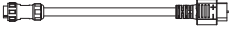



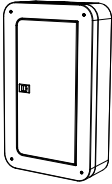
- If liquid is found inside the device, user must turn off the power immediately.
- The equipment room must be properly insulated and the walls and floors must be damp-proof.

03. IN THE BOX

Standard Accessories

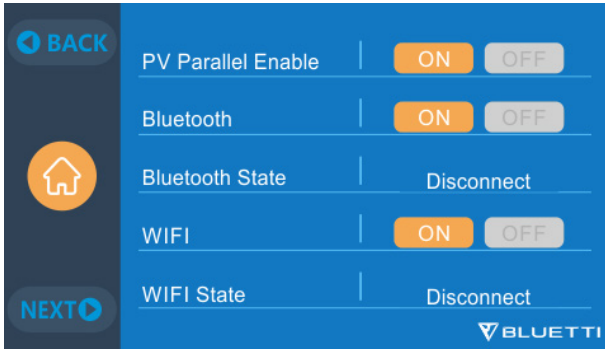
No.	Category	Quantity
1	 AC300 Power Station	1
2	 AC Charging Cable (15A Charge the AC300 with B300)	1
3	 Multifunctional DC Charging Cable For solar, car, lead-acid battery charging.	1
4	 Car Charging Cable Charging AC300+B300 with cable No3.	1
5	 User Manual	1
6	 Warranty Card	1
7	 Certificate of QC PASS	1

Additional Purchase Accessories
Sold on BLUETTIPOWER.COM

No.	Category	
8	 <p>30A Charging Cable Full speed charging from L14-30 receptacle.</p>	
9	 <p>Lead-acid Battery Charging Cable Charging AC300+B300 via Lead-acid battery.</p>	
10	 <p>PV Drop Down Module (D300S) Connect to rigid panels.</p>	
11	 <p>12V/30A XT60 to Aviation Plug</p>	For 30A DC Output
12	 <p>XT60 to SPC45 To support DC power supply for RV.</p>	
13	 <p>100W USB-C to USB-C To charge electronics with USB-C port.</p>	
14	 <p>AC Charging Cable for Split Phase Charging two AC300 connected in split phase mode via wall outlet.</p>	
15	 <p>Sub Panel Integrate the power station to your home circuit as backup UPS.</p>	

04. APP USER GUIDE

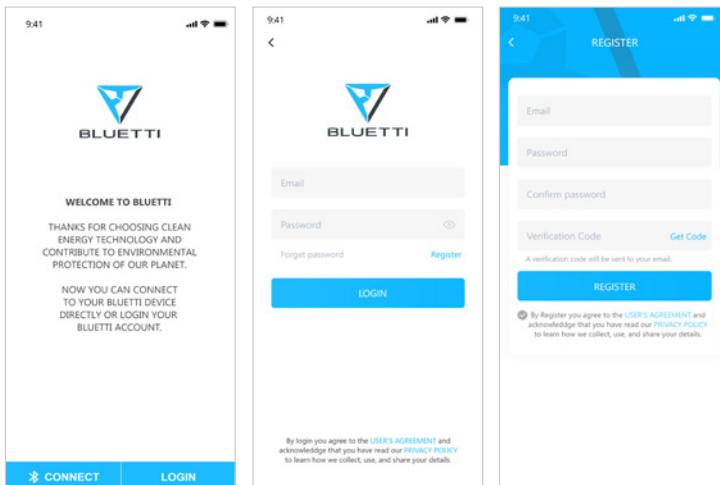
Please make sure the Bluetooth & Wi-Fi State is “ON” (set on touchscreen of AC300) before connecting AC300+B300 to BLUETTI App.



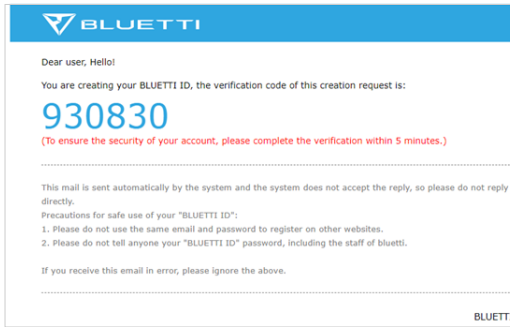
(Main Interface - Settings - Next - Next - Next)

Step 1:

- Search for “BLUETTI” in the App Store (for iOS devices) or Google Play (for Android devices) to download the BLUETTI App to remotely control your AC300+B300. The AC300+B300 system can be controlled via either Bluetooth or Wi-Fi. In order to access the AC300+B300, please launch the BLUETTI App once downloaded and installed, and tap the “LOGIN” icon to register your BLUETTI account. Fill with your related information to continue.

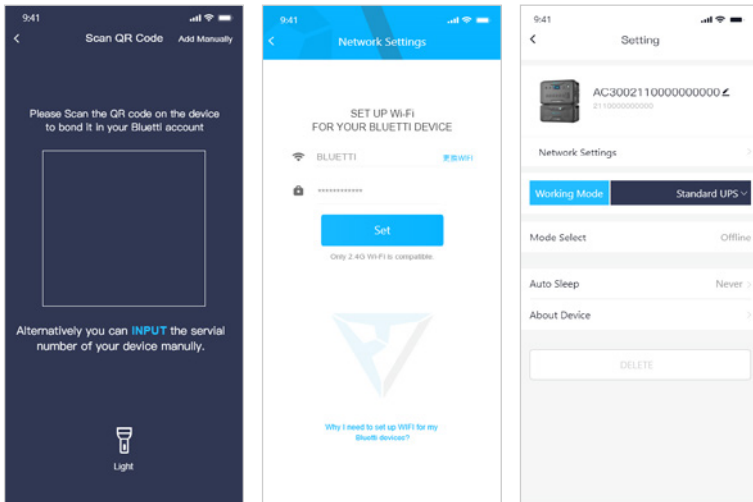


- Check your email account you used in the BLUETTI App for the verification code sent from BLUETTI server and fill in the activation code located within the email to activate your BLUETTI account.



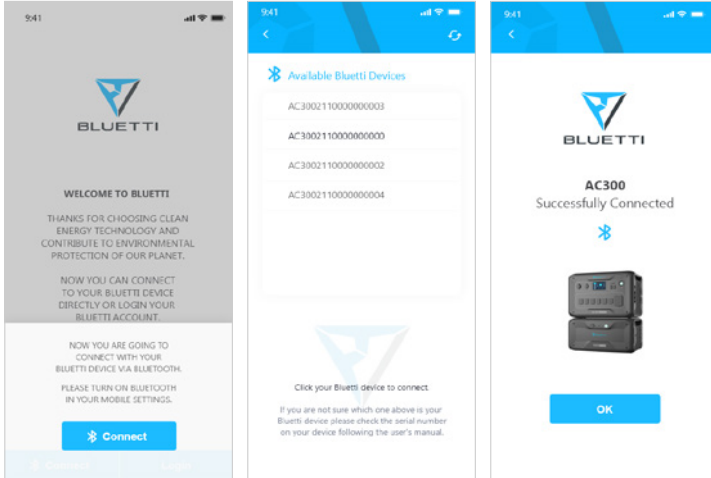
Step 2 :

- Connect AC300 with B300. Scan the unique QR code on AC300 to add the unit on the available device list on the App, and fill it with the password of your 2.4GWi-Fi network to activate the communication function of AC300 for data syncing.

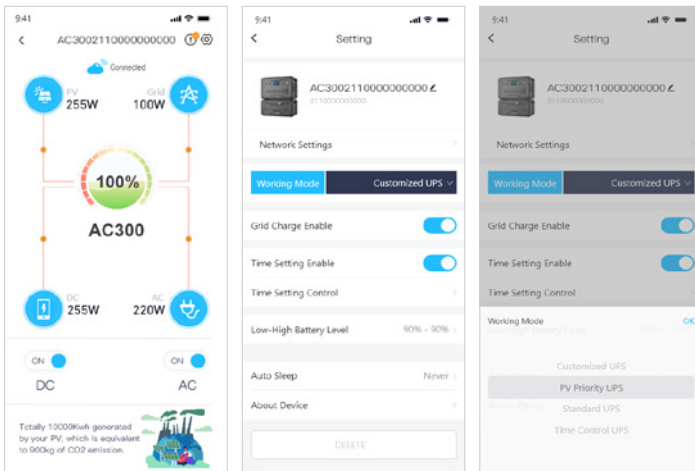


- For Bluetooth Connecting, tap "CONNECT" at the homepage to connect AC300+B300 with your phone via Bluetooth, select the SN number of your devices.

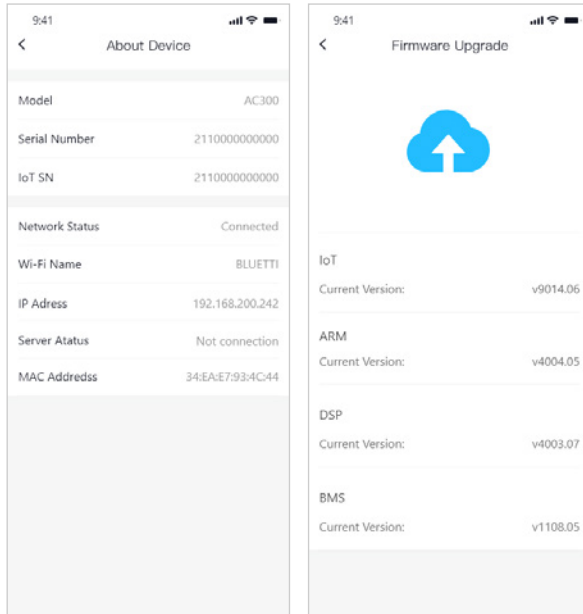
Please tap “settings-product info” on AC300 to view the SN number of your unit.



● The basic information can be viewed after the unit is connected with App successfully. Tap “gear icon” to customize the current working mode and parameters of your AC300 under “Settings”.



● The BLUETTI App supports a “Firmware Update” function which allows access to the latest software upgrades for continued features, improvements and fixes.



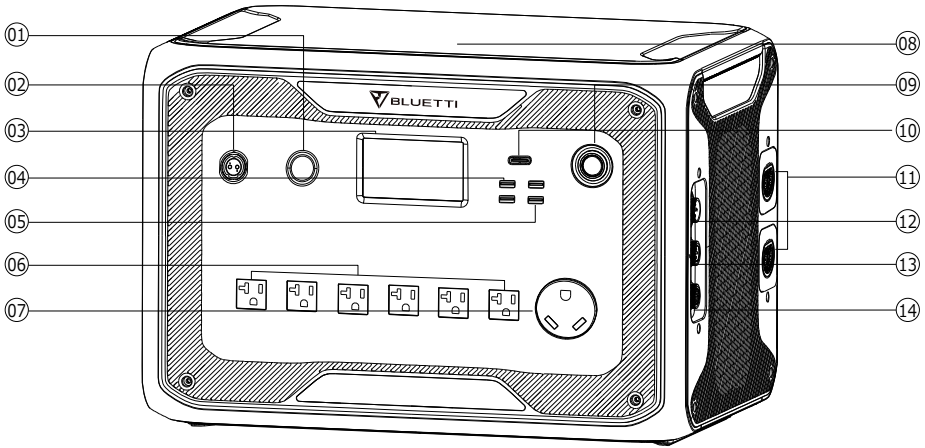
Note: Please keep your phone 5m/16.4ft within the AC300+B300 for a better connection during update.

User cannot turn on AC300 via BLUETTI App.

Also, if BLUETTI APP fails to connect to the Internet. Tap "Settings" on the mainpage of your phone and scroll down until the BLUETTI App shows up(IOS). Tap "Settings" on mainpage of your phone, tap "Application Management" and select BLUETTI(Android).

Tap the BLUETTI icon and verify that "Wireless and Data" permissions are enabled.

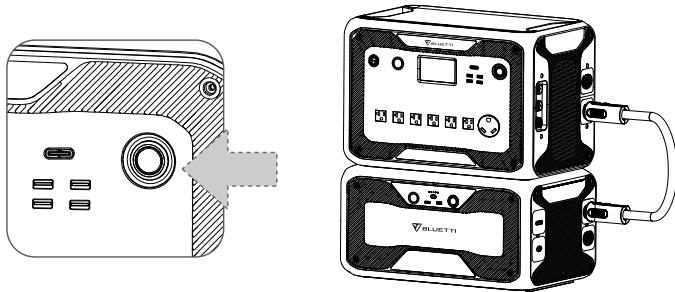
05. FEATURES OF AC300



- 01 24V/10A Cigarette Lighter Port
- 02 12V/30A Port
- 03 LCD Screen
- 04 USB-A (fast charging)
- 05 USB-A
- 06 AC Output Port(20A MAX)
- 07 AC Output Port(30A MAX)

- 08 Wireless Charging Pad
- 09 Power Button
- 10 USB-C(PD3.0 protocol supported)
- 11 Battery connection port
- 12 AC Input Port
- 13 DC1/DC2 Input Port
- 14 Communication Interface

06. STARTUP & POWER OFF



- Connect AC300 with B300. Please follow the steps on B300 User Manual.
- Power On AC300: Long press the power button for 1 second. The power

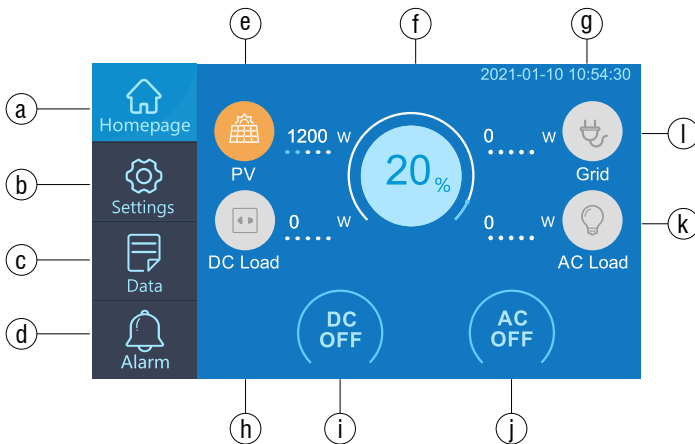
button indicator will illuminate.

- Power Off AC300: Long press the power button. The power button indicator light will turn off.
- DC power switch and AC power switch are accessible via the Touchscreen LCD. Press the “DC ON/OFF” button and/or “AC ON/OFF” button on the screen to turn ON/OFF the DC/AC output.
- AC300+B300 will turn on automatically from Power Off status when either grid charging and/or PV charging is applied to the unit.
- User can also power ON/OFF of the system by turning ON/OFF B300.
- AC300+B300 will turn off in 4 hours under:
 - a: No Input and Output
 - b: AC and DC switch at OFF state

07. USER INTERFACE

7.1. Main Interface

Tip: The LCD resistive touchscreen, recommended to press lightly with the edge of your fingernail until it "beeps" when it registers a press. **(NOTE: Touchscreen sounds can be disabled in the Settings menu).**



- a. Homepage
- b. Settings
- c. Data
- d. Alarm
- e. PV Charging Information
- f. BMS Information
- g. Date/Time
- h. DC load Information
- i. DC ON/OFF
- j. AC ON/OFF
- k. AC load Information
- l. AC Charging Information

7.2. Settings

- You can customize the working mode of AC300+B300 and tweak the parameters such as language, voltage, frequency, current (UPS In-Grid Mode), working type, date/time, etc.
- Click the Settings Button in the homepage to enter the setting interface.

7.2.1. AC Output Voltage & Frequency

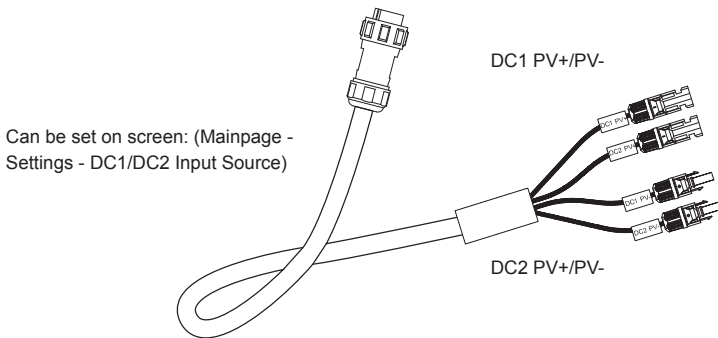
● **NOTE: Please check the output voltage, frequency, and other parameters BEFORE using for the first time. The AC300 100-120V AC version cannot be set to 220-240V AC output. Users can tap the screen to set the parameters as needed. Output frequency and voltage can only be tweaked when the AC is OFF (tap the AC icon at homepage to turn off AC output).**

- The list of standard output voltage and frequency in 5 regions or countries.
 - JP Output: 100V/50 or 60Hz
 - US Output: 120V/60Hz
 - AU Output: 240V/50Hz
 - EU/UK Output: 230V/50Hz

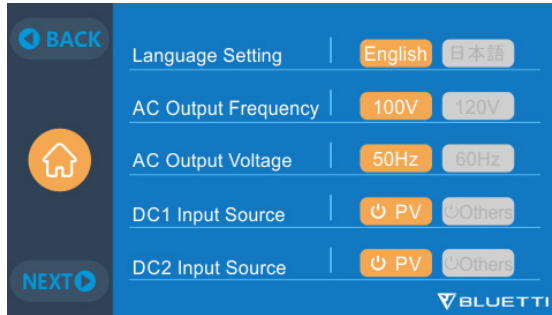
7.2.2. DC Input Source

DC Input Source: AC300 integrates dual MPPT and separates the DC input source into DC1 and DC2 in parallel. DC1 indicates the first group of DC input source as the labels written on MC4 plug of PV charging cables: DC1 PV+ and DC1 PV-, DC2 PV+ and DC2 PV-.

DC1/DC2 consist of both positive pole and negative pole of the MC4 plugs. Both DC1 and DC2 input source can be set on touchscreen: (Mainpage - Settings - DC1/DC2 Input Source).

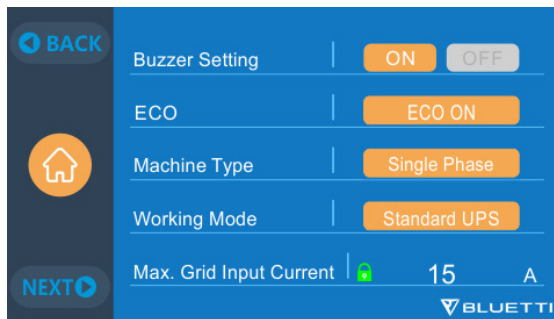


(Cable No.3)

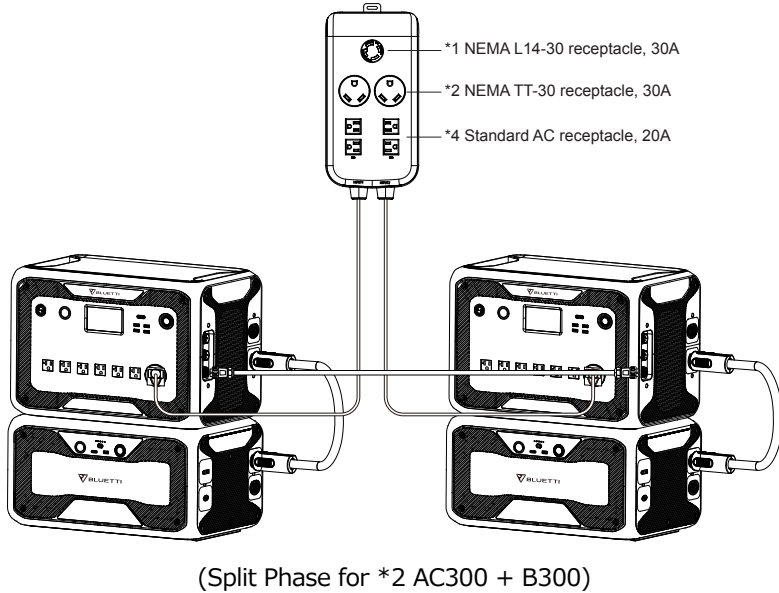


7.2.3 Language Setting & ECO Mode

- Press “English” or “Japanese” icon to set as the system language display of your AC300.
- ECO: The power saving mode of the unit to turn off the AC output to conserve energy if the AC load is less than 30W over 4 hours.



7.2.4. Machine Type (for split phase setting, exclusive for 100-120V Version)



7.2.5. Working Mode

Tip: The AC300+B300 defaults to Standard UPS Mode.

There are 4 working modes you can select in settings:

Standard UPS Mode: Default working mode.

Time Control UPS Mode: Suitable for areas with peak and off-peak time-of use rates in order to save money.

PV Priority UPS Mode: Recommended for areas in stable power supply.

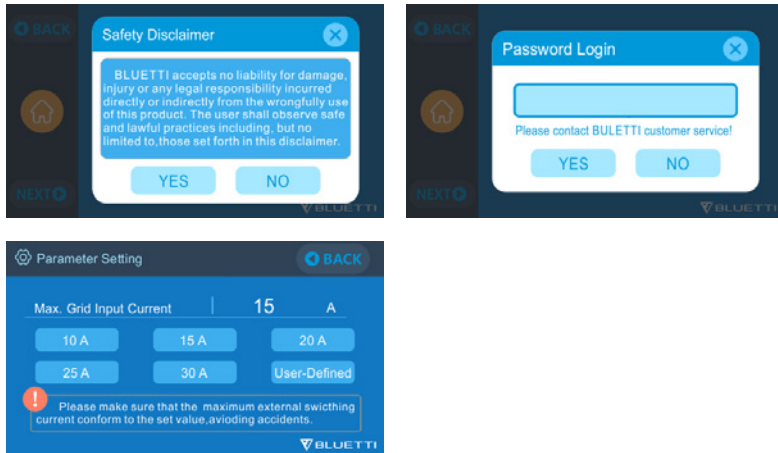
Customized UPS Mode: Customized the parameters for a better user experience. For more details on each UPS Mode setting, please read Chapter 10. UPS.

7.2.6. Max. Grid Input Current

● Please check the specification of your grid, sockets, connections, wires, etc. to determine the maximum allowable current that can be drawn by the AC300. BLUETTI is not liable for any damages, injuries, or any other legal responsibility incurred directly or indirectly from changes made to this setting.

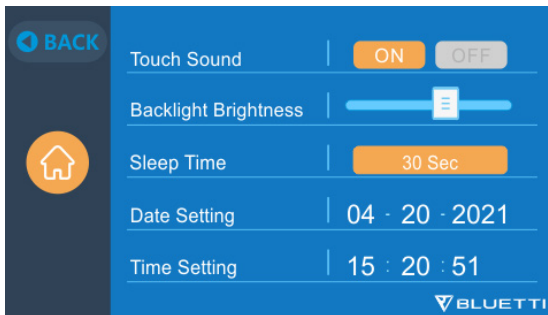
● Max. Grid Input Current: limit the Max. input current of the **tied grid**, when the current exceeds the preset value, AC300 will take charge to be the power source of the circuit.

Note: Only take effect when AC300 has been connected into grid. The value presets at 15A. Email the render for safety password to unlock the Max. grid input current limit.



7.2.7. Date and time & Touch Sound & Backlight Brightness

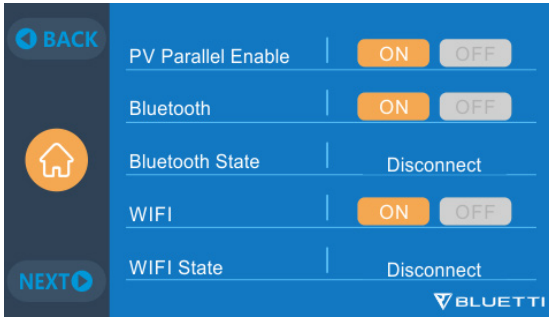
- Tap each respective date and time setting in order to set the date and time as applicable to your local time zone.
- Tap to Enable/Disable touch sound.
- You may change the Backlight Brightness of the LCD by using the slider on the screen.



7.2.8. Bluetooth & Wi-Fi Connection

The Bluetooth and Wi-Fi connection can be turned ON or OFF by tapping the ON and OFF icon for either function.

User cannot connect AC300+B300 to BLUETTI App when both of the Wi-Fi and Bluetooth function is disabled.



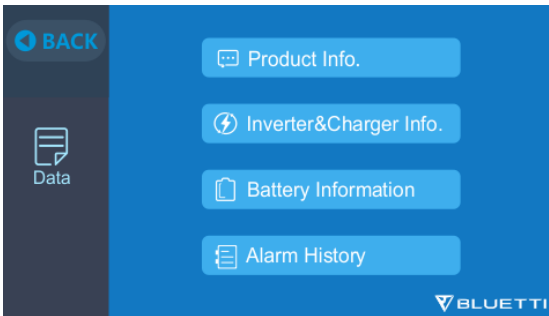
7.2.9 Restore Factory Settings

This menu item is used to restore some parameters in the system to their original factory values.



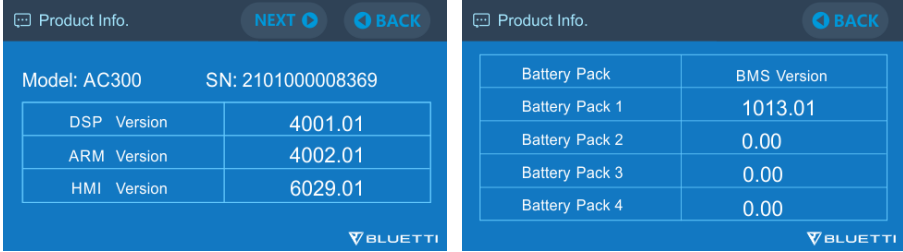
7.3. Data

In the Data section, you can check the Battery Status of B300, Product Info, Inverter & Charger Info, and Alarm/Fault History.



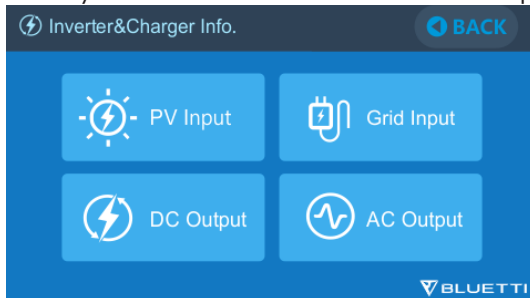
7.3.1. Product Info

- When you select the “Product Info” button, you can view the product model, serial number (SN), control software version, monitoring software version, BMS monitoring software version and display software version.
- The Serial Number (SN) can also be used to pair to BLUETTI APP manually.



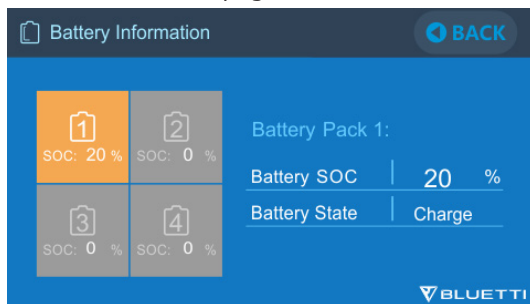
7.3.2. Inverter & Charger Info

By tapping the “Inverter & Charger Info” button, user can view the PV charging, adapter charging, DC output and AC output working status. This section can also be accessed directly from the shortcut icon on the homepage.



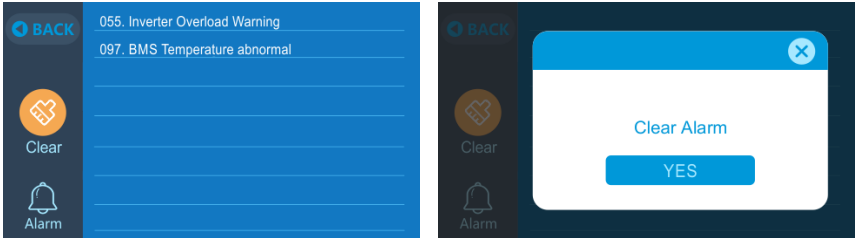
7.3.3. Battery Information

By tapping the “Battery Information” button, user can view the live information of the status of the B300 battery pack. This section can also be accessed directly from the shortcut icon on the homepage.



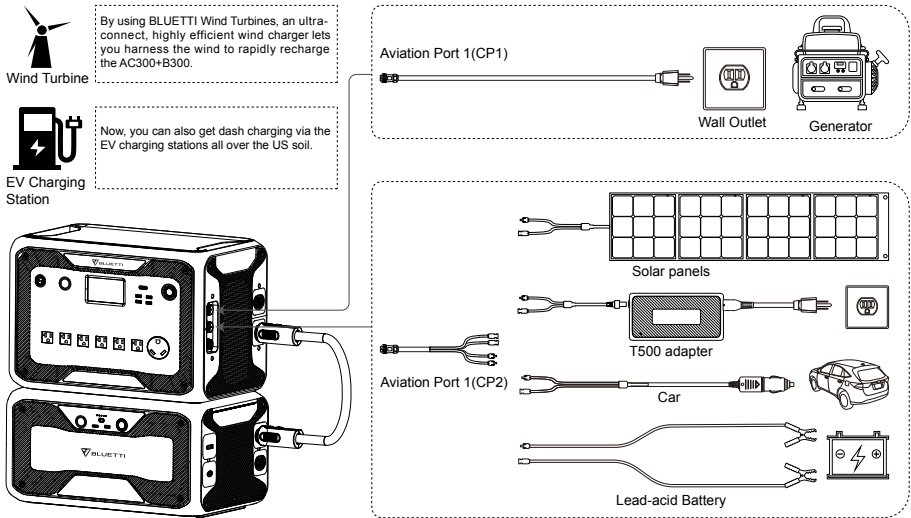
7.3.4. Alarm History

Tap the “Alarm History” button, user can view all the alarm information generated by the machine. User can turn to the **Chapter 14 Troubleshooting** to check the corresponding solutions.



08. HOW TO RECHARGE AC300+B300 (INPUT)

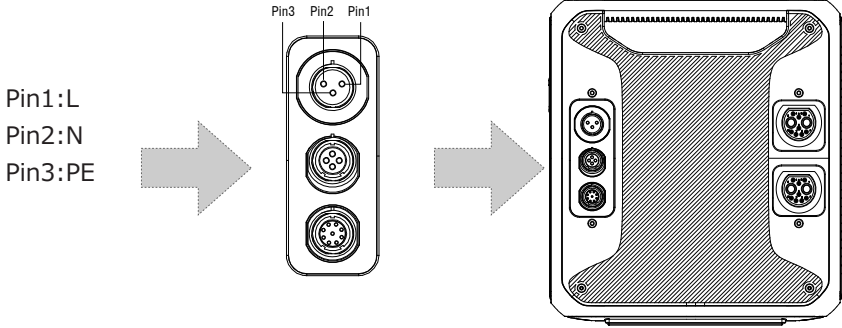
- The AC300 includes two charging ports which can be recharged in different methods . They will be covered in three different sections according to which port(s) are being connected.
- The two ports are named as Aviation Charging Port 1 [CP1] and Aviation Charging Port 2 [CP2].



- AC300+B300 supports AC, generator, solar, additional adapter, car, lead-acid

battery, EV, wind turbine and DUAL charging through Aviation Port 1 [CP1] and Aviation Port 2 [CP2].

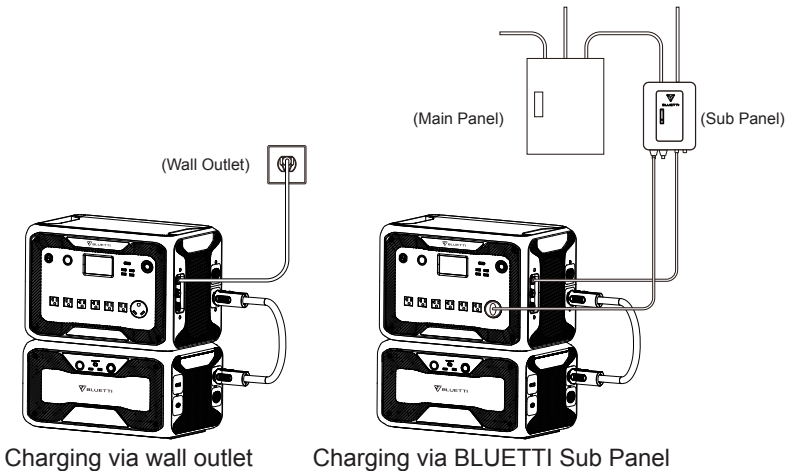
8.1. CP1 (1st Charging Port)



8.1.1. Charging Method 1: From Wall Outlet (by AC charging cable)

Connect the AC300+B300 from CP1 via the AC charging cable to the wall outlet @1500W/100Vac, @1800W/120Vac Max. The charging process will automatically stop when it reaches 100% capacity. Additionally, you can choose to access the BLUETTI Sub Panel or the L14-30 receptacle, the maximum charging power allowed will be up to 3000W.

DO NOT charge the JP/US version(100-120V) AC300+B300 through 220-240V circuit.



Charging via wall outlet

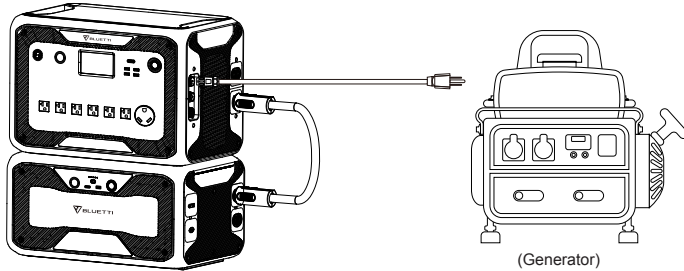
Charging via BLUETTI Sub Panel

8.1.2. Charging Method 2: From Generator (gasoline, propane, or diesel)

- Connect the AC300 from CP1 via the generator charging cable (sold

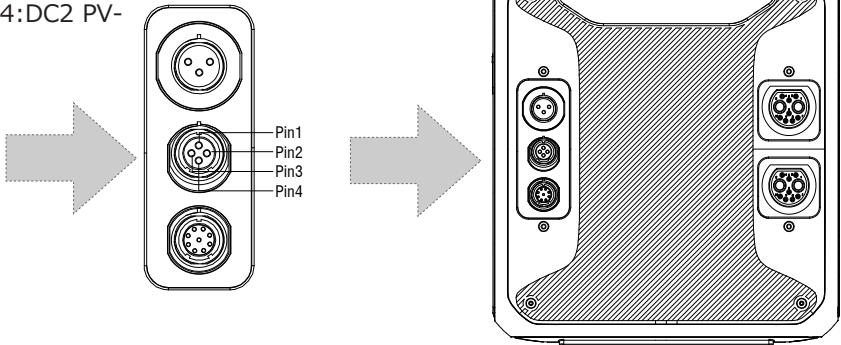
separately) to the AC output of the generator. The charging process will automatically stop when it reaches 100%.

- The required output power of your generator has to exceed the Max. input power of the AC input port of the AC300. Also a generator with a pure sine wave output is recommended (e.g. Inverted-based Generators) Voltage limit: 85-110VAC/JP(100VAC),102-132VAC/US(120VAC), 207-253VAC/EU/UK/AU. Frequency limit: 47Hz-53Hz(50Hz),57Hz-63Hz(60Hz).



8.2. CP2 (2nd Charging Port)

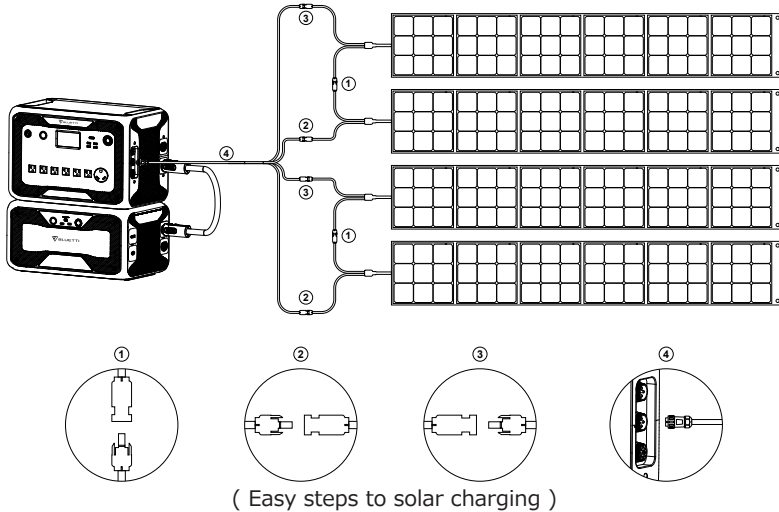
- Pin1:DC1 PV+
- Pin2:DC2 PV+
- Pin3:DC1 PV-
- Pin4:DC2 PV-



8.2.1. Charging Method 3: Solar Panels (via 4pin aviation-MC4 cable)

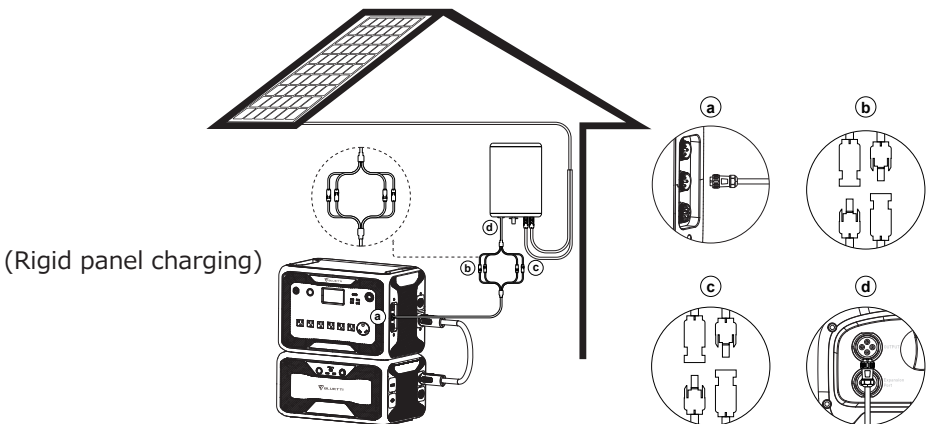
- For regular solar panels:
The AC300+B300 supports two PV inputs. Each individual input supports up to 12A and the charging voltage should be between 12-150V. The AC300+B300 can achieve a combined maximum of 2400W of total solar input.
 - a. User can connect solar panels in series(Figure 1).

- b. Connect the MC4 port of solar panels to the MC4-Aviation cable (Figure 2/3).
- c. Plug the Aviation cable to the middle input port on AC300.(Figure 4)



● If you choose roof/rigid panels to be the solar power source to charge your AC300+B300, user can easily connect your rigid panels with the MC4-to-Aviation cable to your AC300+B300. The optional PV Module (additional accessory) is required to step down the voltage if the open circuit voltage produced by your roof panels exceeds the limit of AC300 can handle: 12-150VDC, 12A*2.

Note: This PV module doesn't work with solar panels that have built-in microinverters, and open circuit voltage over 550V.

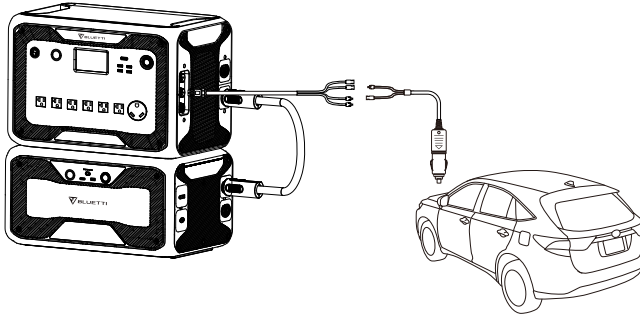


- a.DC Output Cable to AC300
- b.DC1 poles to PV1 poles

- c.DC2 poles to PV2 poles
- d.DC Output Cable to D300S

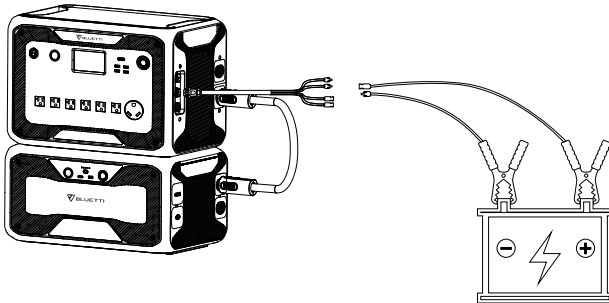
8.2.2. Charging Method 4 :Car Charging

- Press the power button and connect it to the cigarette lighter port through the car charging cable.
- Enter the setting interface as shown in through the display screen to set DC1/2 input source to set DC1/2 input source to be charged with 8.2A maximum current.



8.2.3. Charging Method 5 :Charging via Lead-acid battery

- Connect to the positive and negative poles of the battery through the provided solar charging cable(pay attention to distinguish the positive and negative poles of the battery, the red clamp indicates the positive pole, and the black one indicates the negative pole) .
- Tap “setting” at homepage to set DC1/2 input source to “Others” to charge from lead-acid battery.



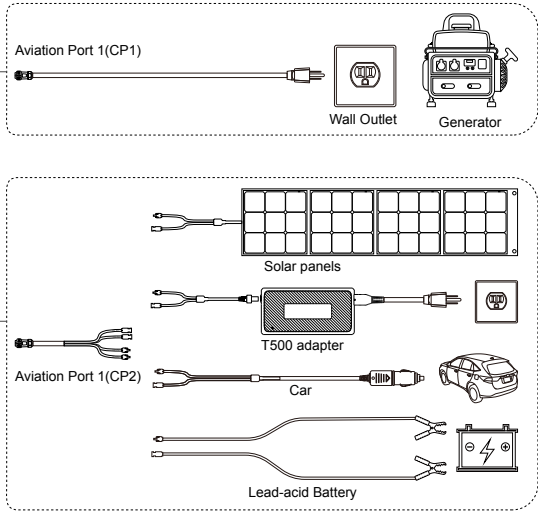
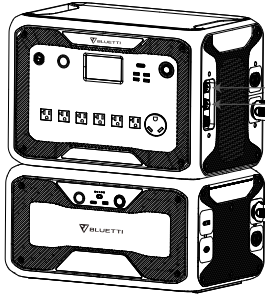
8.3. Dual Charging



By using BLUETTI Wind Turbines, an ultra-connect, highly efficient wind charger lets you harness the wind to rapidly recharge the AC300+B300.



Now, you can also get dash charging via the EV charging stations all over the US soil.



Charging Method 5: Supports charging the AC300+B300 with CP1 and CP2 at same time. You can use any charging methods listed previously, simultaneous, to maximize charging power input. They are listed here again for your convenience. Select one method for CP1 and one method for CP2 for simultaneous charging.

CP1 Charging Port Select:

Method 1: GEN charging cable

Method 2: AC charging cable

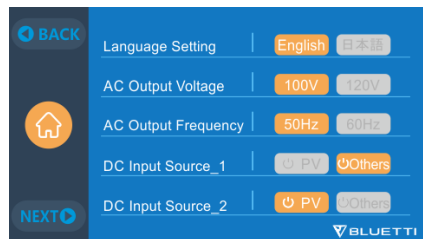
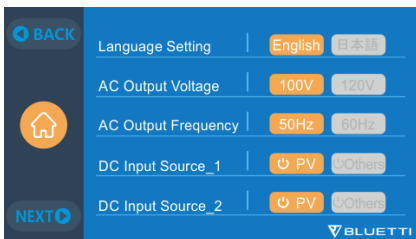
CP2 Charging Port Select:

DC Input1:

Method 3: Solar panels (DC Input Source 1, Select PV on the touchscreen)

Method 4: T500 charging adapter (DC Input Source 1, Select Others on the touchscreen)

Method 5: 12V Car Charger/Storage battery (DC Input Source 1, Select Others on the touchscreen) Method 6: 24V Car Charger/Storage battery(DC Input Source 1, Select Others on the touchscreen)



DC Input2:

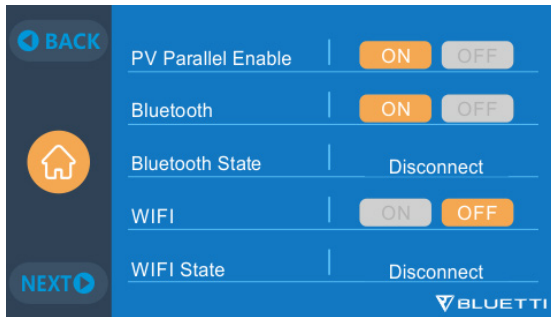
Method 7: Solar panels (DC Input Source 2, Select PV on the touchscreen)
Method 8: T500 charging adapter (DC Input Source 2, Select Others on the touchscreen)

Method 9: 12V Car Charger/Storage battery (DC Input Source 2, Select Others on the touchscreen)

Method 10: 24V Car Charger/Storage battery (DC Input Source 2, Select Others on the touchscreen)



Method 11: PV Parallel (PV parallel needs to be enabled on the touchscreen)



8.4. How to calculate the recharging time of AC300

E.g. : The total recharging power is 5400W(3000W+2400W) recharged by AC and 2nd PV at same time, the estimation time will be 1.6-2.1Hrs.(AC300 with two B300 in parallel)

09. DISCHARGE (OUTPUT)

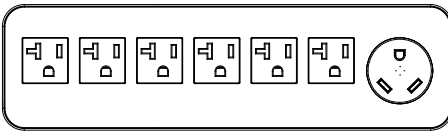
The running time of the AC300+B300 is subject to factors such as ambient temperature, discharge rate, remaining battery capacity, altitude and other factors.

9.1. The Output Port

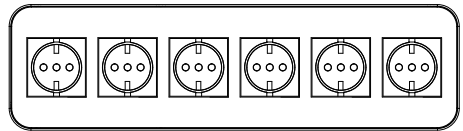
9.1.1. AC Output Port

- AC300 is equipped with *7 AC(US, JP version) / *6 AC(AU,EU,UK) outputs with a continuous 3000W Max. power of output in total, and the ability to support surges up to 6000W.
- Please make sure the combined power requirements of your appliances does not exceed the 3000W limit.

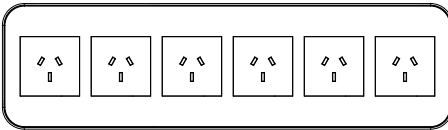
JP/US Version
7 * 100-120V/20A



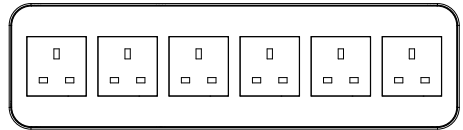
EU Version
6 * 220-240V/20A



Only the NEMA TT-30 can generate 3000W,30A power of output, the standard AC output port can produce 2000-2400W,20A power of output.

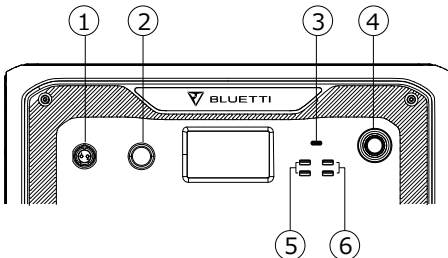


AU Version
6 * 220-240V/20A

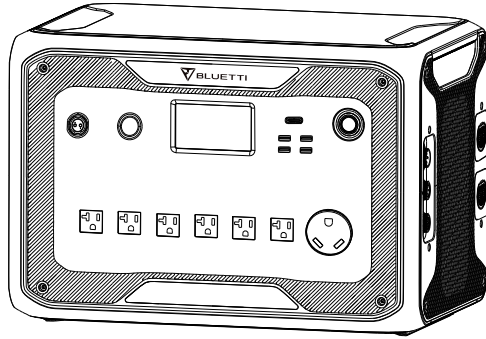


UK Version
6 * 220-240V/20A

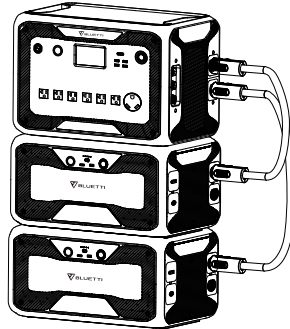
9.1.2. DC Output Port



1. *1 RV port
2. *1 24V/10A Cigarette Lighter Port
3. *1 USB-C (PD 100W)
4. *1 Power button
5. *2 USB-A (fast charging)
6. *2 USB-A



9.2. Operation Time Estimation



$AC300 + B300 * 2 = 6144Wh$

● Kitchen Equipment



Refrigerator
700W(24h)
2.8 Day



Electric Fry Pan
1500W
3.3 Hrs



Microwave Oven
1000W
5.0 Hrs



Washer
500W(1000Wh)
4.8-9.2 Hrs

● Home Equipment



Space Heater
1500W
3.2 Hrs



Air Conditioner
8000Btu
2 Hrs



Smart Phone
18Wh
115 Times



Laptop
45Wh
71 Times



Desktop
300W
14.5 Hrs



CPAP
40W
77 Hrs

● Tools



Bench Grinder
1400W
3.5 Hrs



Welding Machine
1800W
2.8 Hrs



Circular Saw
1400W(2300W)
2.1-3.5 Hrs

●Transportation



Electric Vehicle(16A)
1800W
13.5-16 Miles



E-Bike
500W
9.2 Times

(The estimation operating time is only for reference)

9.3. How to Calculate the Operation Time

●What is the depth of discharge (DoD)?

To extend the battery-life, the power station set the 90% DOD, which means that only 90% of the battery capacity can be discharged. 10% of the energy is reserved to avoid damage to the battery due to over-discharge.

η indicates local inverter efficiency. $DOD=90\%$, $\eta =90\%$.

10. UPS

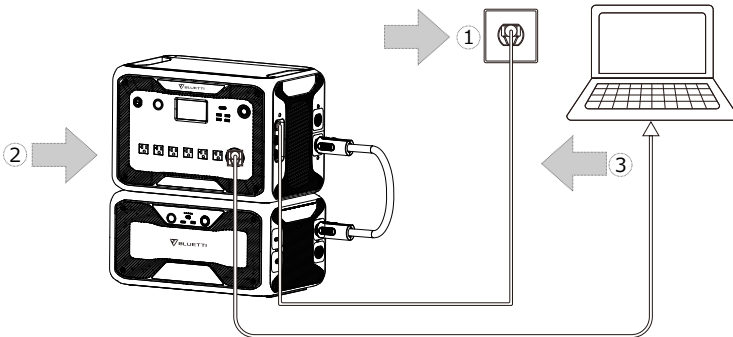
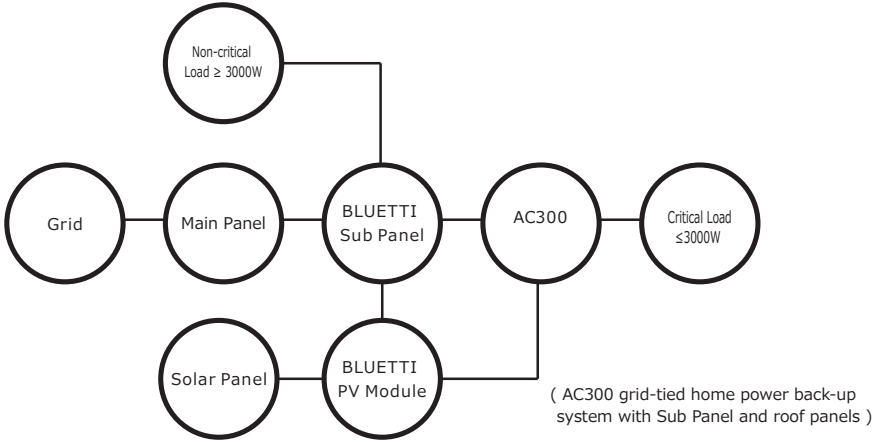
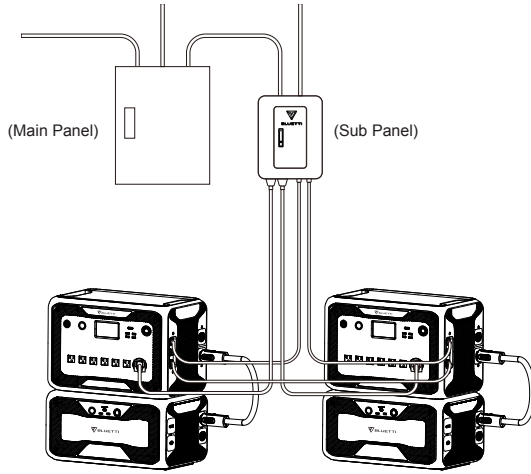
10.1. UPS Description

An uninterruptible power supply or uninterruptible power source (UPS) is an electrical apparatus that provides emergency power to a load when the input power source or mains power fails. A UPS differs from an auxiliary or emergency power system or standby generator in that it will provide near-instantaneous protection from input power interruptions, by supplying energy stored in batteries, supercapacitors, or flywheels.

10.1.1. FYI (For Your Information)

Max. capacity retention indicates the limit of capacity of the unit that can be recharged by grid, if you set the Max. battery capacity at 80% at Time Control UPS Mode and Customized UPS Mode then AC300 could be charged to 80% via grid. The rest of the 20% capacity will be recharged via solar panels.

10.1.2. UPS working system introduction



(Plug-in UPS system)

Step1: Plug the AC charging cable into the wall outlet.

Step2: Plug the AC charging cable into the AC input port.

Step3 : Connect the load to AC300 via AC output port

Note: The output power in Plug-in UPS Mode is subject to the **specification of the current and voltage from home circuit.**

a, Standard UPS Mode. b, Time Control UPS Mode.

c, PV Priority UPS Mode. d, Customized UPS Mode.

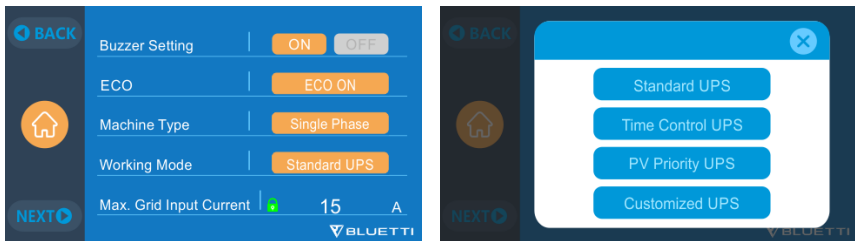
Eg: Current (15A wire) X Voltage (120V) = 1800W in US

Eg: Current (30A wire) X Voltage (120V) = 3000W in US

10.1.3. Turn On UPS Function

- Select "Setting" on the main touchscreen interface. Select "Next" and select "Working Mode" to choose UPS Mode.

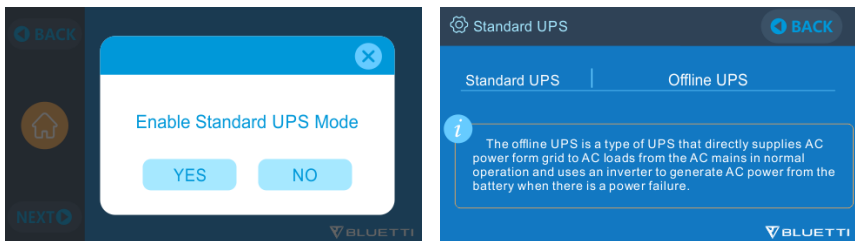
- The default working mode is "Standard UPS Mode".



10.2. Enable UPS Running Mode

10.2.1 Standard UPS Mode

- The AC300+B300 will power your load directly from the grid and maintain a 100% charge. When grid power fails, the AC300 switches to internal batteries.



10.2.2. Time Control UPS Mode

● Set the times of the AC300+B300 to be charged via grid power and the times to run loads from its battery.

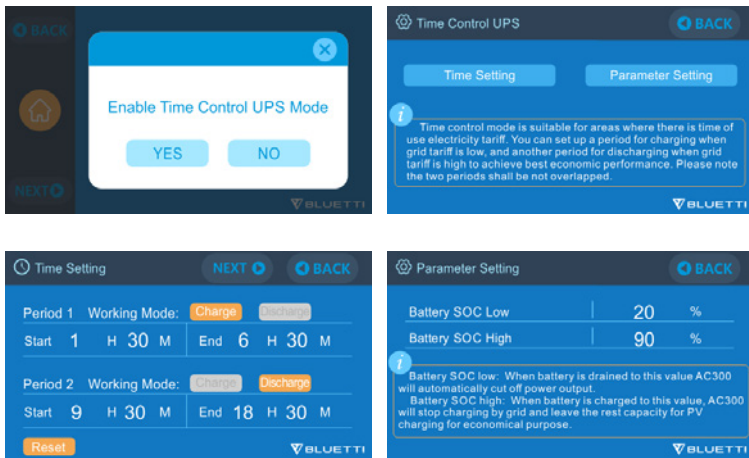
Charge Time: Set the time of when the AC300+B300 is to be recharged by grid to avoid the higher electricity rates.

Discharge Time: Set the time to switch to batteries to power loads connected to the Sub Panel (Optional Purchase).

● **Parameter Setting:**

Battery SOC Low: When the remaining capacity of AC300+B300 is under the preset High/Low battery capacity, AC300+B300 will stop powering connected loads.

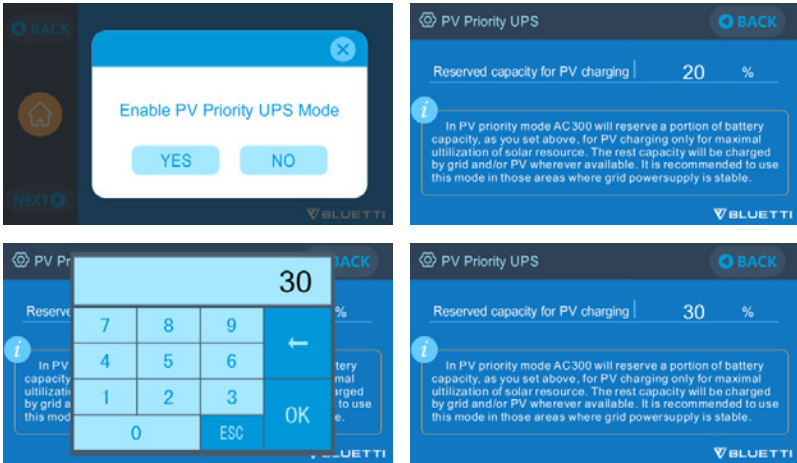
Battery SOC High: The maximum capacity AC300+B300 can be charged via grid. Remaining capacity will be charged via solar panels, car, lead-acid battery or second adapter only.



10.2.3. PV Priority UPS Mode

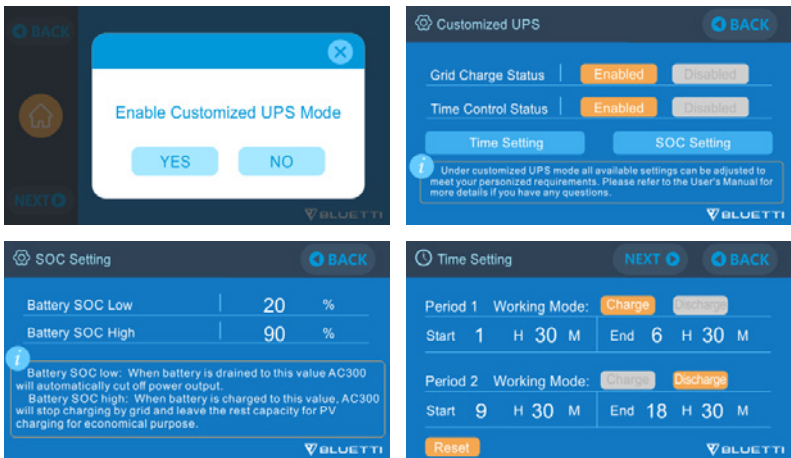
● PV Priority Mode: Recommended for areas with stable grid power. The battery will be recharged mainly by PV for power savings.

● Note: In PV Priority Mode, AC300 can only be recharged via grid to 30% capacity, and also discharge to 30% of the capacity (you can tweak it to 100% for full grid charging manually on touchscreen or App) as the "Reserved capacity for PV charging". And rest of the capacity will be fully charged from either solar power or 2 adaptors.

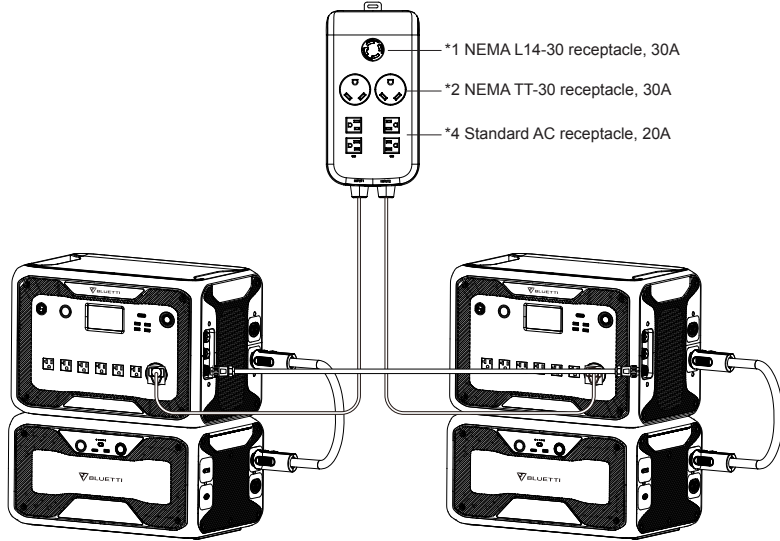


10.2.4. Customized UPS Mode

- Charge/Discharge time, and High/Low Battery SOC can be set in this UPS mode.
- Ability to disable the grid charging. The unit will not charge batteries from grid.
- Apart from Time Control UPS, the main switch of grid charging and time mode settings are involved. The setting of "Time Setting" and "SOC Setting" will take effect on both PV Priority Mode, and Time Control Mode.



11. SPLIT PHASE FUNCTION



Note:

- (1) Please disconnect the AC charging cable for both AC300 units while binding into split phase box.
- (2) Certificated Technician is required to build the split phase system to power the Sub Panel.

Warning: If you insist to charge the AC300 which has been connected into split phase box already, please make sure the L1/L2/N wire is set at the right phase sequence or the AC300 will be damaged.

L: Live wire **N:** Neutral wire

CONNECTION 1 (Standard Mode)

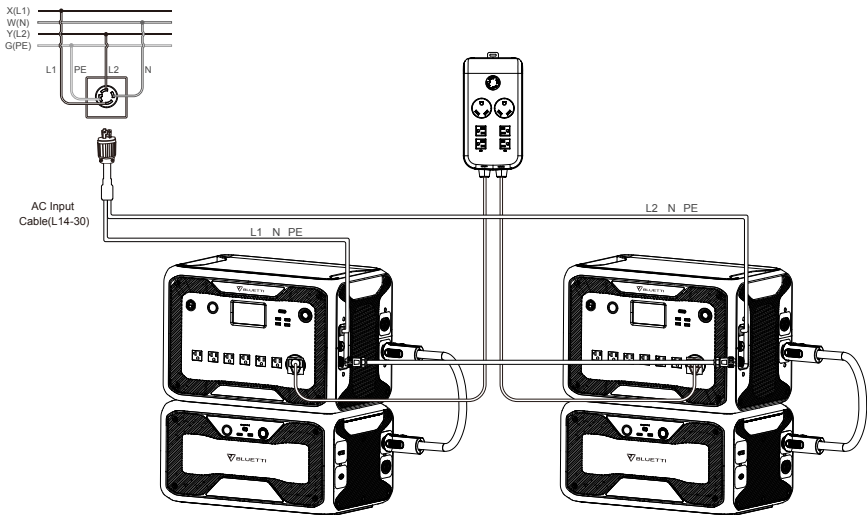
“Single Phase” is set as the default machine type if you are operating a single AC300+B300 system. It`s the only and correct setting if a single AC300+B300 is being used. "Machine type" is only used to set for Split Phase, “Split Phase” is only used for connecting both *2 AC300+B300 (exclusive for AC300 100-120V Version) bonded 2 pairs of AC300+B300 to one power supply system to double the output power, voltage, so as to capacity. Please refer to Split Phase Setting for detailed information.

CONNECTION 2 (Power Mode)

In Split Phase Power System, it is recommended that you choose the **Fusion AC Input Cable**. The AC input ports of the two set of AC300+B300 should be connected to be as the phase sequence: L1,N,PE and L2,N,PE. Make sure that the phase sequence of the two machines is correct.

Wrong Connection will damage the power station and your warranty will be invalid, BLUETTI will not take responsibility for the damage caused by personal negligence or wrong operation.

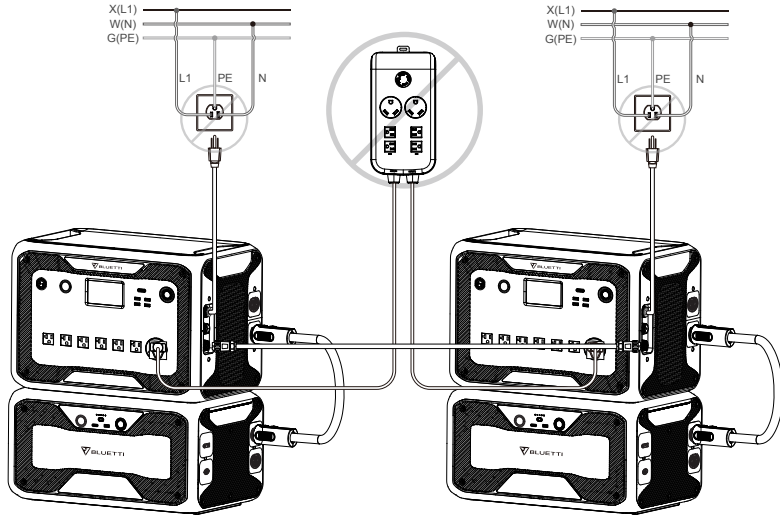
The Fusion AC Input Cable(Optional Purchase) is designed to power the Split Phase System. One end of the cable is going to be connected to NEMA L14-30 socket, and connect the aviation plugs to the AC input ports of the two set of AC300+B300. The current of AC input plug: $\geq 30A$.



WRONG CONNECTION

It's forbidden to charge AC300+B300 through the original AC charging cable in Split Phase System, please use Fusion AC Input Cable(Optional Purchase) to charge the two set of the AC300+B300 in Split Phase System.

Wrong Connection will damage the power station and your warranty will be invalid, BLUETTI will not take responsible for the damage caused by personal negligence or wrong operation.

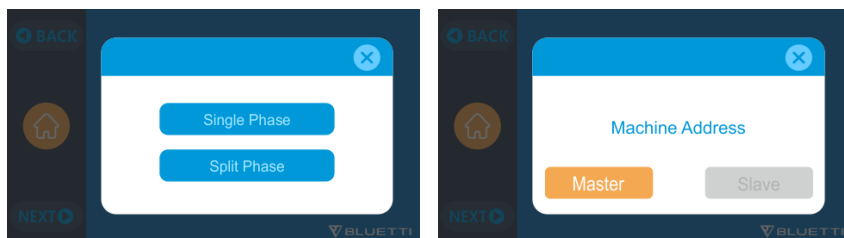


- The “Machine Type” setting on screen is used to enable or disable Split Phase output. Split-Phase output is achieved by bonding two AC300 into one power system to double the available output power, voltage, and capacity.
- “Split Phase” is only used for connecting both *2 AC300 together (exclusive for the 100-120V version of the AC300). A Fusion Box(P30A) is required (sold separately).
- Launch Split Phase Function:

Note:

If one of the AC300 is out of power, the Split Phase Bonding function will deactivate automatically.

- Step 1: Plug the output cables from each of the two AC300 to the Split Fusion Box Pro.
- Step 2: Plug the communication cables from each of the two AC300 to the Split Fusion Box Pro.
- Step 3: Set the Machine Type to "Split Phase" on AC300 either.
- Step 4: Select "Master" or "Slave" on the operating AC300. Select "Master" will set the operating AC300 as the one to control both two AC300. Then select "Slave" for another AC300.
- Step 5: Clear the alarm history if the connection failed and reconnect the cables.



12. TECHNICAL SPECIFICATION

Model	AC300-JP	AC300-US	AC300-EU/UK/AU
Net Weight	21.6kg (47.62lbs)		
Dimensions	520*320*358mm (20.5*12.5*14.1in)		
Charge Temperature	0-40°C (32-104 °F)		
Discharge Temperature	-20-40°C (-4-104 °F)		
Storage Temperature	-20-40°C (-4-104 °F)		
Working Environment Humidity	10-90%		
Certification	PSE, FCC, CE, UN38.3, msds, UL, SAA and ROHS		
Capacity	3072-12288Wh (60-240Ah)		
Battery Type	LiFePO4		
Standard Battery Voltage	51.2VDC		
Battery Cell Voltage Range	44.8-57.6VDC		
Short-circuit Protection	Included		
Over-temperature Protection	Included		
MPPT	Built-in		
Over-temperature Protection			
Discharge Over-temperature	65°C		

Discharge Over-temperature Recovery	55°C		
Charge Over-temperature	55°C		
Charge Over-temperature Recovery	45°C		
AC Output			
AC Inverter	*7 3000W total		*6 3000W total
Rated Output Voltage	100VAC	120VAC	220-240VAC
Rated Output Frequency	50/60Hz		
Rated Continuous Power	3000W		
Rated Output Current	30A	25A	13A
Power of Over-load	3100W < load < 3750W, 2min; 3750W < load < 4500W, 5s; 4500W < load < 6000W, 500ms		
Efficiency	>88%		
THD	<5%		
DC Output			
Cigarette Lighter Port	*1 24VDC,10A		
USB-A	*2 5VDC,3A,15W total		
USB-A(fast charging)	*2 3.6-12VDC,3A;18W*2 total		
USB-C (Type-C)	*1 5-15VDC,3A;20VDC,5A,100W		
Wireless Charging Pad	*2 5/7.5/10/15W*2		
RV Port	*1 12VDC,30A	418W>load, 2S	
AC Input			
Input Voltage	85-110VAC/JP	102-132VAC/US	207-253VAC EU/UK/AU
Input Frequency	47Hz-63Hz		
Max. Input Current	30A		
Configurable Input Current	Preset at 15A, can be changed on screen		
AC Charging Voltage Range	90-264VAC		

AC Charging Frequency Range	47Hz-63Hz
Power of Charging	3000W Max
PV Input	
Max. Input Voltage	150VDC
MPPT Voltage Range	12-150VDC
Max. Power of Input	1200W*2
Rated Input Current	12A*2

13. STORAGE AND MAINTENANCE

- Please turn off the unit and charge it to 50-70% capacity every time before storing it.
- To preserve the battery health, please discharge and fully charge the unit at least once every 6 months.
- Ensure proper ventilation in use or store and keep away from any combustible materials or gases.
- Do not stack anything on the top of the unit in storage or use.
- Avoid exposing the unit to rain or wet environment, and direct sunlight (32-113 °F , 0-45°C), clean and dry environment is strongly recommended.
- Dry, non-abrasive cloths to wipe will be perfect. The power station is a versatile tool for various adventures, simple cleaning would be required from time to time to keep the unit in a good condition.
- Keep the unit away from children and pets.

14. TROUBLESHOOTING

Error Code	Error List	Troubleshooting
001	D-AMCU Warning	Please contact with the dealer if the error still exists after rebooting the unit.
002	D-BMS Warning	Please contact with the dealer if the error still exists after rebooting the unit.

003	D-A Communication Error	Please contact with the dealer if the error still exists after rebooting the unit.
004	Battery Voltage High -Hardware	Please contact with the dealer if the error still exists after rebooting the unit.
005	BUS Voltage High-Hardware	Please contact with the dealer if the error still exists after rebooting the unit.
006	SPS Voltage Low-Hardware	Please contact with the dealer if the error still exists after rebooting the unit.
007	Fan Warning-Hardware	Clean or replace the fan to ensure proper ventilation. Please contact with the dealer if the error still exists after rebooting the unit.
008	OCP (Over Current Protection)- Hardware	Please contact with the dealer if the error still exists after rebooting the unit.
009	LLC Soft-Start Failure	Please contact with the dealer if the error still exists after rebooting the unit.
010	BUS Soft-Start Failure	Please contact with the dealer if the error still exists after rebooting the unit.
011	H-BUS Voltage High	Please contact with the dealer if the error still exists after rebooting the unit.
012	Bus Voltage High	Please contact with the dealer if the error still exists after rebooting the unit.
013	LLC-Bus Voltage High	Please contact with the dealer if the error still exists after rebooting the unit.
014	Bus Voltage Low	Please contact with the dealer if the error still exists after rebooting the unit.
015	DC Input Voltage High	Please contact with the dealer if the error still exists after rebooting the unit.
016	DC Input Voltage Low	Please contact with the dealer if the error still exists after rebooting the unit.
017	DC Input Over Current	Please contact with the dealer if the error still exists after rebooting the unit.
018	Inverter Output Over Current	The output power of load exceeds. Please contact with the dealer if the error still exists after rebooting the unit.

019	Inverter Voltage High	Please check if the output of load meets the specifications of the unit. Turn on the AC after rebooting, please contact with the dealer if the error still exists.
020	Inverter Voltage Low	Please check if the output of the load meets the specifications of the unit. Turn on the AC after rebooting, please contact with the dealer if the error still exists.
021	Grid Input Over Current	Please check if the input of the current meets the specifications of the unit. Turn on the AC after rebooting, please contact with the dealer if the error still exists.
022	Inverter Output Short circuit	Please disconnect the load to make sure the load has been connected properly. Click to clear the alarm history.
023	Inverter Over-load Protection	Please disconnect the load to make sure the output power of loads meet the limit of the unit. Click to clear the alarm history.
024	Phase Integration Error	Check the input wire and whether the "Master" unit or "Slave" unit can work well.
025	AC Relay Short Circuit	Please contact with the dealer if the error still exists after rebooting the unit.
026	AC Relay Open Circuit	Please contact with the dealer if the error still exists after rebooting the unit.
027	Load Relay Short Circuit	Please contact with the dealer if the error still exists after rebooting the unit.
028	Load Relay Open Circuit	Please contact with the dealer if the error still exists after rebooting the unit.
029	INV Soft-Start Failure	Please contact with the dealer if the error still exists after rebooting the unit.
049	PV1 Over Current	Please contact with the dealer if the error still exists after rebooting the unit.
050	PV2 Over Current	Please contact with the dealer if the error still exists after rebooting the unit.

051	PV1 Over Voltage	Please check if the open circuit voltage of solar panels exceeds the input voltage standard of AC300.
052	PV2 Over Voltage	Please check if the open circuit voltage of solar panels exceeds the input voltage standard of AC300.
053	D-BAT Full	The battery is full.
054	D-BAT Drained	Empty of battery. When SOC > 5%, the alarm is cleared. You need to turn AC ON again on the screen.
055	Inverter Overload Warning	The output power of load exceeds.
056	AC Overload Warning	The output power of load exceeds.
057	Grid Voltage High	Please check whether the grid voltage fits the input voltage standard of AC300.
058	Grid Voltage Low	Please check whether the grid voltage fits the input voltage standard of AC300.
059	Grid Frequency High	Please check whether the grid frequency fits the input frequency of AC300.
060	Grid Frequency Low	Please check whether the grid frequency fits the input frequency of AC300.
061	Multi Communication Error	Please check whether the communication cable is connected correctly. Clear the alarm history or restart the unit.
062	Multi Address Error	Please check whether the communication cable is connected correctly. Please check whether the communication cable is connected correctly. Clear the alarm history or restart the unit.
063	Multi Synchronization Error	Please check whether the communication cable is connected correctly. Clear the alarm history or restart the unit.
064	Multi Brak Phase Error	Please check if the input of the AC voltage meets the specifications of the unit. Clear the alarm history or restart the unit.

065	PV Paralleling Error	Please check whether the PV parallel enable setting is consistent with the PV input. Please contact with the dealer if the error still exists after rebooting the unit.
081	BMS Communication Interrupt	Please contact with the dealer if the error still exists after rebooting the unit.
082	LCD Communication Interrupt	Please contact with the dealer if the error still exists after rebooting the unit.
083	EEPROM Read & Write Error	Please contact with the dealer if the error still exists after rebooting the unit.
084	DSP Configuration Error	Please contact with the dealer if the error still exists after rebooting the unit.
085	RTC Read & Write Error	Please contact with the dealer if the error still exists after rebooting the unit.
086	12V/30A Port OCP	Please disconnect the appliances on DC 12V/30A ports. Clear the alarm history or restart the unit.
087	24V/10A Port OCP	Please disconnect the appliances on DC 24V/10A ports. Clear the alarm history or restart the unit.
088	USB/TYPE-C/PD Port Current High	Please disconnect the appliances on USB ports. Clear the alarm history or restart the unit.
089	DC 12V/30A Output Current High	Please disconnect the appliances on DC 12V/30A ports. Clear the alarm history or restart the unit.
090	DC 24V/10A Output Current High	Please disconnect the appliances on DC 24V/10A ports. Clear the alarm history or restart the unit.
091	DC Output soft start Failure	Please contact with the dealer if the error still exists after rebooting the unit.
092	DC 12V/30A Output Short Circuit	Please disconnect the appliances on DC output ports.
093	DC 24V/10A Output Short Circuit	Please disconnect the appliances on DC output ports.

094	USB/TYPE-C/PD Port Locked	Please disconnect the load to make sure the output power of loads meet the limit of the unit. Please contact with the dealer if the error still exists after rebooting the unit.
095	12V/30A DC Port Locked	Please disconnect the load to make sure the output power of loads meet the limit of the unit. Please contact with the dealer if the error still exists after rebooting the unit.
096	24V/10A DC Port Locked	Please disconnect the load to make sure the output power of loads meet the limit of the unit. Please contact with the dealer if the error still exists after rebooting the unit.
097	BMS Temperature abnormal	Please store AC300 at the recommended temperature and leave it until the temperature inside back to the normal standard.
098	BMS Over Voltage	Please contact with the dealer if the error still exists after rebooting the unit.
099	BMS Low Voltage	Please contact with the dealer if the error still exists after rebooting the unit.
100	BMS Over Current	Please contact with the dealer if the error still exists after rebooting the unit.
101	BMS Precharge Error	Please contact with the dealer if the error still exists after rebooting the unit.
102	BMS Output Short Circuit	Please contact with the dealer if the error still exists after rebooting the unit.
103	BMS communication cable error	Please check whether the battery power cable is reliably connected. Please check whether the lock switch on the power cable has been turned on. Please contact with the dealer if the error still exists after rebooting the unit.
107	Temperature Abnormal	Please leave the unit at the recommended temperature few hours to recover. Please contact with the dealer if the error still exists after rebooting the unit.

108	Fan Faulty	Clean or replace the fan to ensure proper ventilation. Please contact with the dealer if the error still exists after rebooting the unit.
-----	------------	--

15. FAQ (Frequently Asked Questions)

- How to claim the warranty and extended warranty?

Please refer to the warranty card you received from where you have ordered the product from. Any extended warranty, if purchased, will only take effect after the default warranty has expired.

- Can the unit firmware be upgraded?

The firmware including ARM, DSP, IoT and BMS can be upgraded online through BLUETTI APP.

- Can it be charged and discharged at the same time?

Yes, the unit supports pass-through charging function for both AC and DC outputs.

- What is the UPS switching latency?

20ms from offline UPS.

- Can I connect my two AC300+B300 units with a Fusion Box(P020A) to achieve double the output power, voltage and capacity?

Only Fusion Box Pro(P030A) can be connected two set of AC300+B300 power station.

- Can I use third-party solar panels to charge the unit?

Yes, the third-party solar panels are available as long as they contain MC4 connectors, besides the voltage (in series or parallel) is between 12V to 150V and the maximum combined input power from the two PV input ports is 2400W. If the open circuit voltage of the panels is between 150V-550V, you can choose D300S to drop down the voltage of the panels to achieve solar charging.

- How do I know whether my appliance can work well with the power station?

Calculate how much the continuous loads are for your appliances are in total. As long as they do not exceed the rated output power of the power station, it should work.

- How can I connect the product to my main panel?

To install the grid-tie power system, an electrician with a professional technician

certificate is required, connect the wires of critical equipment from your main electrical box to the BLUETTI Sub Panel (optional purchase), then connect AC300 to the Sub Panel.

16. DECLARATION

- Some changes including App may not be noticed specifically such as appearance or specifications due to the exterior material or hardware improvement of the product.
- BLUETTI shall not be liable for any damage caused by force majeure such as fire, typhoon, flood, earthquake or the user's intentional negligence, misuse or other abnormal conditions.
- No compensation for damages shall be made for utilizing non-standard adapters and accessories.
- BLUETTI will not bear all responsibilities if the damage is caused by not operating the product properly according to the instruction of user manual.
- AC300 is not suitable for use on the relevant equipment or machines involving:

Personal safety, such as atomic energy devices, aerospace devices, or any equipment or machines that require highly reliable power sources. We are not responsible for accidents, fires, or wrongful or negligent actions done to the machine and equipment which result in damage.

17. FCC WARNING

This device complies with Part 15 of the FCC Rules.

Operation on the product is subject to the following conditions:

- (1) this device may not cause harmful interference.
- (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, 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.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 0.65ft between the radiator and your body.

EU REP

Company: POWEROAK GmbH
Address: Lindwurmstr. 114, 80337
München Germany
Mail: logi@bluetti.de

UK REP

Company: POWEROAK ENERGY UK CO.,LTD
Address: Suite 108 Chase Business Center 39-41
Chase Side London United Kingdom N14 5BP
Mail:poweroak.eu@bluetti.com