How to build
a partial home backup system with

AC500+B300S

User Manual

V2.1

BLUETTI

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AC500+B300S

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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 for both indoor and outdoor use while delivering an exceptional eco-friendly experience for our homes and our world. That's why BLUETTI makes its presence in 70+ countries and is trusted by millions of customers across the globe.

Contents

Declaration

- The installation should be performed by a licensed electrician. Improper installation may result in death or serious injury and property damage.
- This document is provided for reference purpose ONLY and does not constitute legal advice. Please consult the local licensed electrician for details.

BLUETTI shall not be liable for any damage or injury caused by improper installation of the backup system.

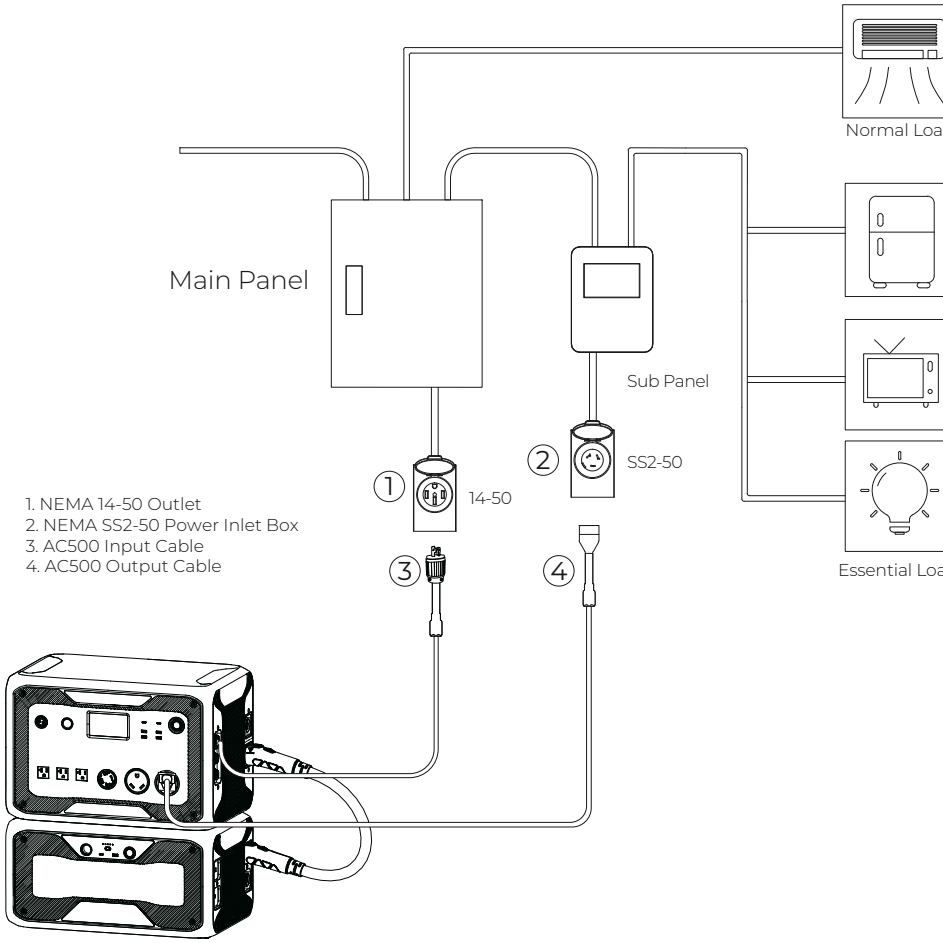
1. 120 Volts AC500+B300S Backup System

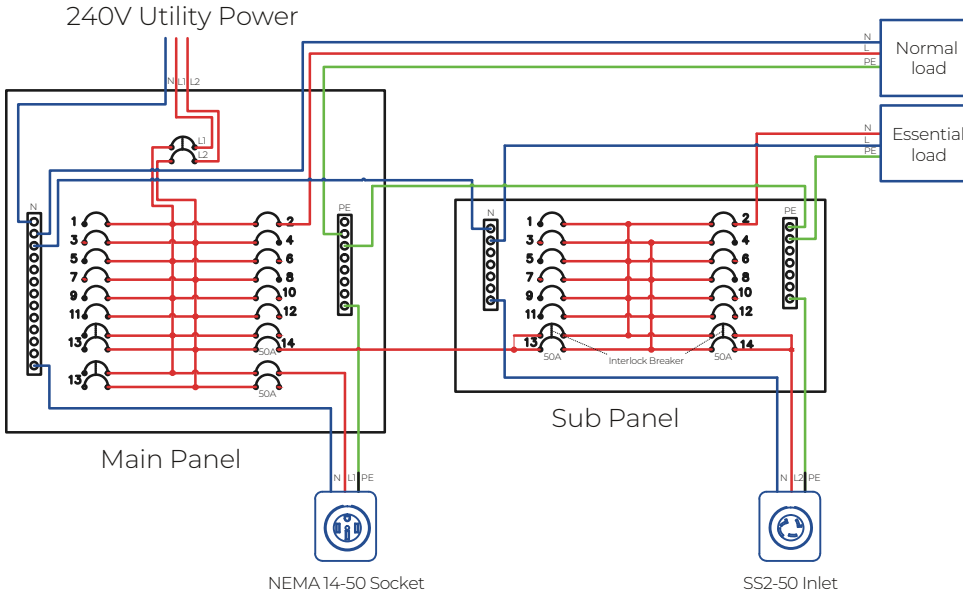
AC500+B300S's Machine Type is set to "Single Phase" by default. DO NOT change this setting if you are operating a single AC500+B300S set.

To build the backup system, you need the following:

Accessories	Qty.
Transfer switch: Reliance TRK0505BR	1
NEMA 14-50P to SS2-50R cord	1
AC charging cable	1

Refer to the diagram below for proper installation of AC500+B300S backup system.





NOTE:

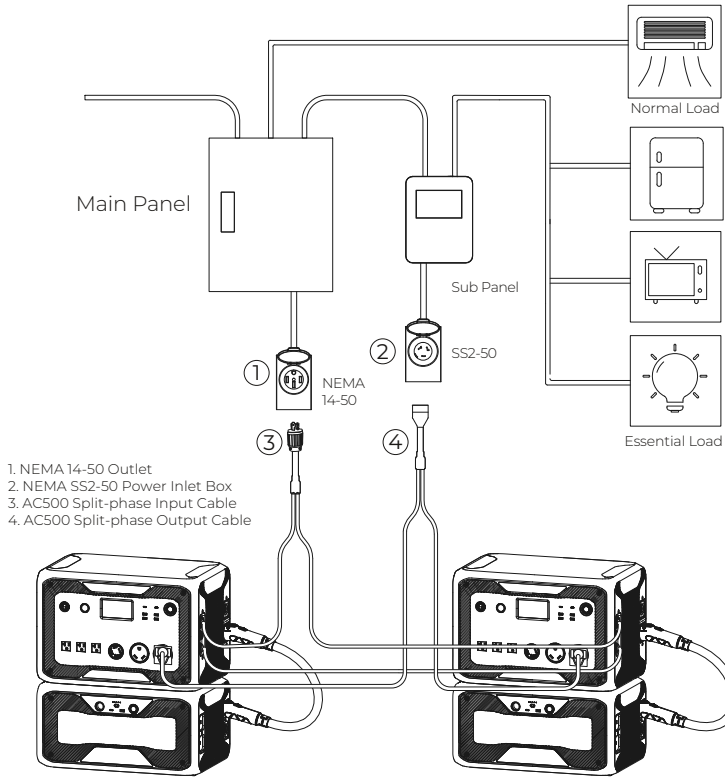
- The backup system must be properly installed by a licensed electrician.
- Please check the voltage at outlets before plugging in your household appliances.
- It is a electrical schematic. For the actual wiring diagram, please refer to Reliance PRO/TRAN2 installation instructions.

2. 240 Volts AC500+B300S Backup System

You can build the 240V Split Phase System by pairing two sets of AC500+B300S together. The system also has double the available output power and capacity. Besides TWO sets of AC500+B300S, you also need the following:

Accessories	Qty.
Transfer switch: Reliance TRK0505BR	1
AC500 split-phase output cable	1
NEMA 14-50 socket	1
AC500 split phase AC charging cable	1

Before installing the Reliance Controls transfer switch system, please make a emergency energy plan that includes which appliances you need during a power outage. It is highly recommended to “balance the load” between the two phases of transfer switch, that’s to say, do not connect high-wattage appliances centrally to a single AC500+B300S set.



Split Phase Backup System

Caution! The backup split phase system must be properly installed by a licensed electrician.

How to configure the AC500+B300S sets:

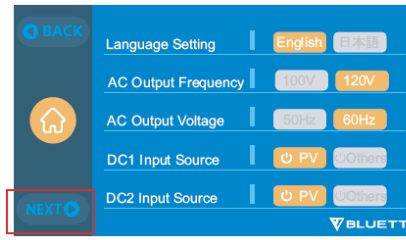
Step 1: Pull the AC input cable , turn off both AC500+B300S sets .

Step 2: Connect AC500+B300S sets to transfer switch via the AC500 split-phase output cable. One NEMA 14-50 plug goes to a set.

Step 3: Connect two AC500 units via the communication cable.

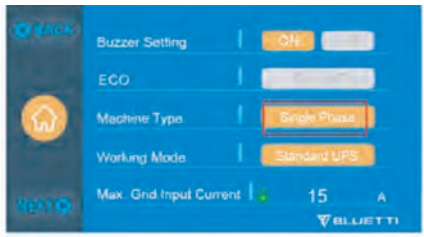
Step 4: Turn on either AC500+B300S set.

Step 5: Go to “Settings” and tap “Next”.

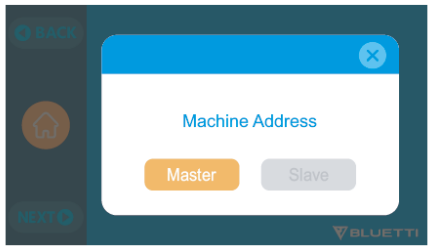


Step 6: Tap “Single Phase”, the machine type option pops up and select “Split phase”.

- Machine Type: Select Split Phase.Working Mode set to “Standard UPS”

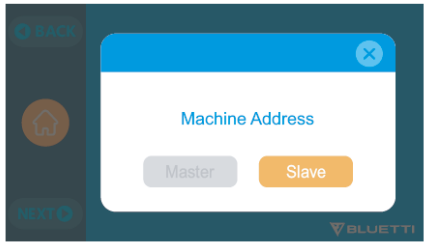


Step 7: Select the “Master” in the Machine Address pop up.

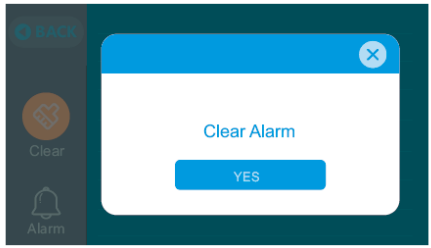


Step 8: Turn on the other AC500+B300S set. Repeat step 5 and 6 to set its machine type to “Split phase”.Working Mode set to “Standard UPS”

Step 9: Select the “Slave” in the Machine Address pop up.



If the connection fails, clear the alarm history, wait for a moment and check again.



Please watch the video from: https://www.youtube.com/watch?v=quvcX8mEUCo

NOTE:

- Disconnect the AC charging cables from AC500+B300S sets before connecting to the transfer switch.
- The split phase system can be controlled ONLY on the “Master” set.
- If one of the AC500+B300S sets is out of power, the split phase system fails automatically.

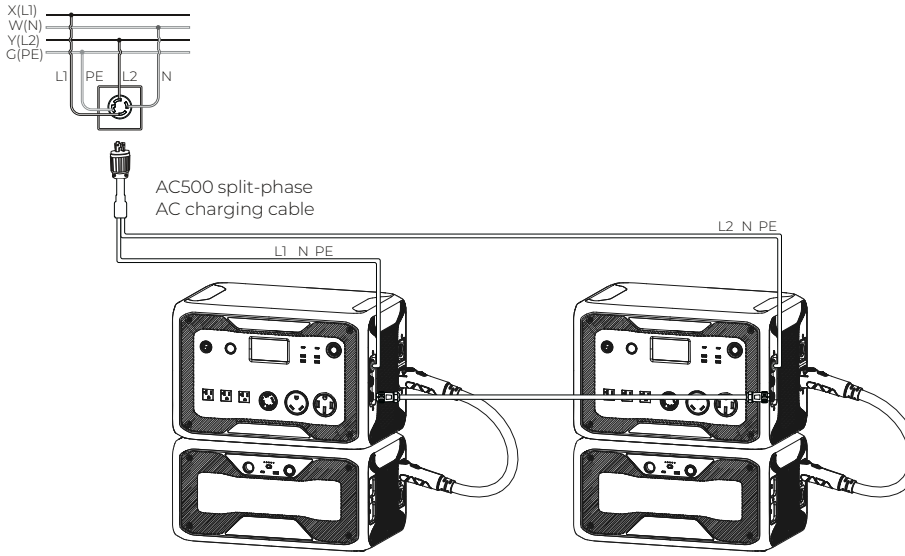
NOTE:

- The backup system must be properly installed by a licensed electrician.
- Please check the voltage at outlets before plugging in your household appliances.
- It is a electrical schematic. For the actual wiring diagram, please refer to Reliance PRO/TRAN2 installation instructions.
- In the main panel, two Neutral/Ground bus bars have been connected together with copper strips.

Connect the AC500+B300S sets to the main panel

Charge the 240V split phase system with AC500 split phase AC charging cable. Plug the cable to a NEMA 14-50 socket (240V)and the other two connectors into AC500s' AC input ports.

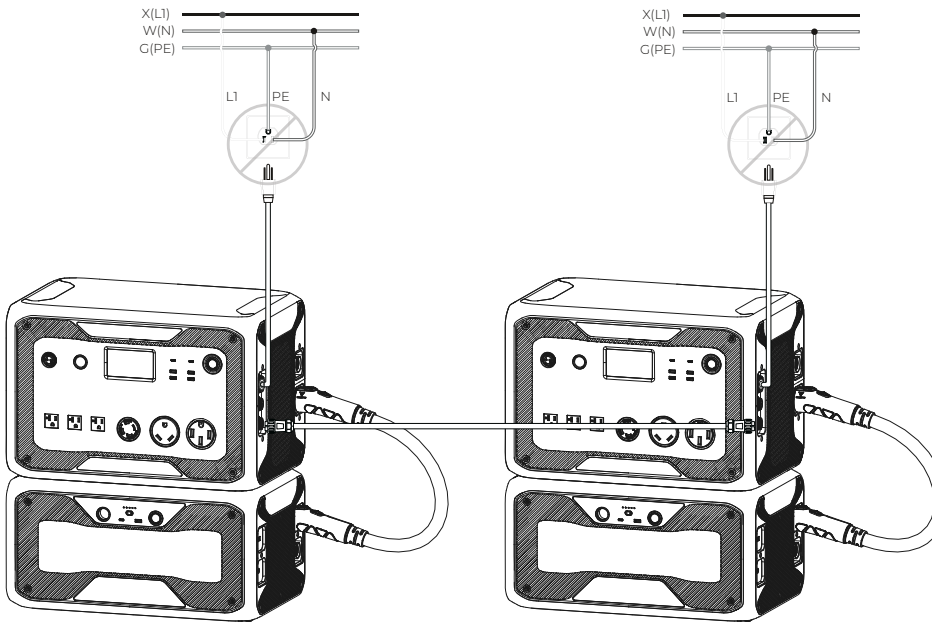
The AC input ports should be connected to L1/N/PE and L2/N/PE, respectively. The current capacity of AC input plug shall be ≥ 50A.



WRONG CONNECTION

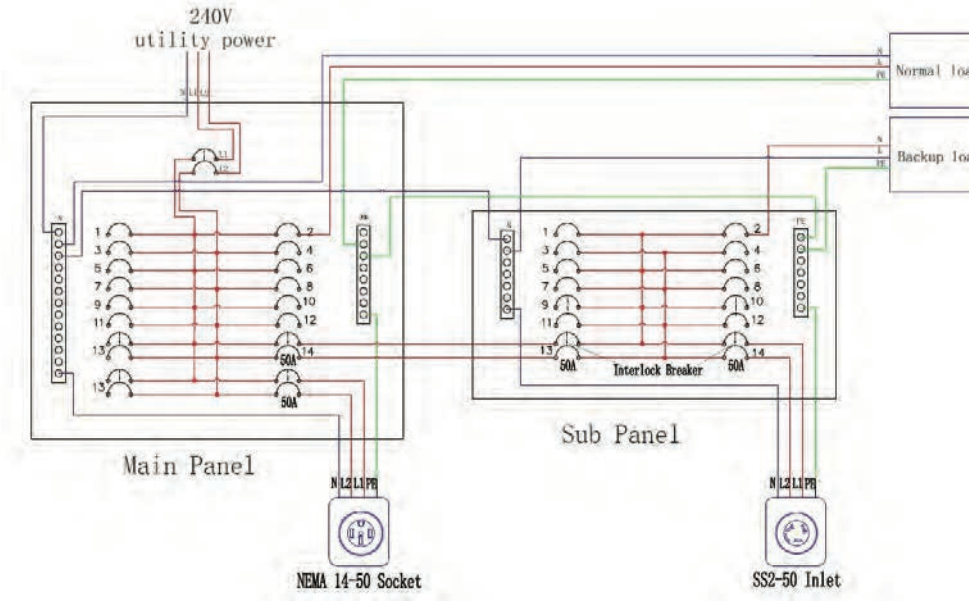
Warning! DO NOT charge AC500+B300S with standard AC charging cable in the split phase system, as this may cause damage to the batteries inside B300s and invalidate your warranty.

L: Live wire N: Neutral wire



NOTE:

The split phase system supports charging via solar panels. You can charge it by PV and the AC500 split-phase AC charging cable simultaneously. (AC input only through the AC500 split-phase AC charging cable but not the standard AC charging cable)



3. Accessories

3.1 Transfer switch

Recommendation: Reliance Controls TRK0505BR transfer switch.

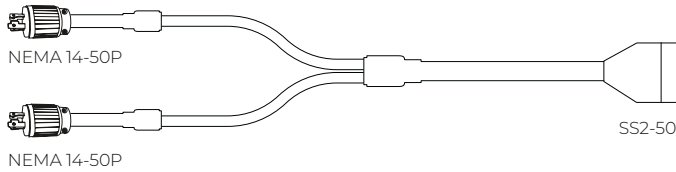
https://www.bluettipower.com/collections/accessories

3.2 50A AC Charging Cable

https://www.bluettipower.com/collections/accessories

3.3 BLUETTI AC500 split-phase output cable

https://www.bluettipower.com/collections/accessories



3.4 BLUETTI AC500 split-phase AC charging cable

https://www.bluettipower.com/collections/accessories

3.5 Communication cable for split-phase function

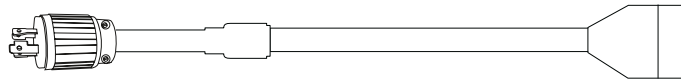
Please buy it from BLUETTI official store.
https://www.bluettipower.com/products/communication-cable-for-split-phase-function

3.6 NEMA 14-50R socket

For charging the 240V AC500+B300S split phase system.
https://www.bluettipower.com/collections/accessories

3.7 NEMA 14-50P to SS2-50R extension cord

For connecting AC500+B300S to the sub panel.
https://www.bluettipower.com/collections/accessories



NEMA 14-50P SS2-50R

4. How to install Reliance Controls

Please refer to Reliance Controls website: www.reliancecontrols.com

5. More information:

Website: www.bluettipower.com Email: service@bluettipower.com

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