

How to build
a partial home backup system with
AC500+B300S

User Manual

V2.0



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AC500+B300S



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.



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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.**

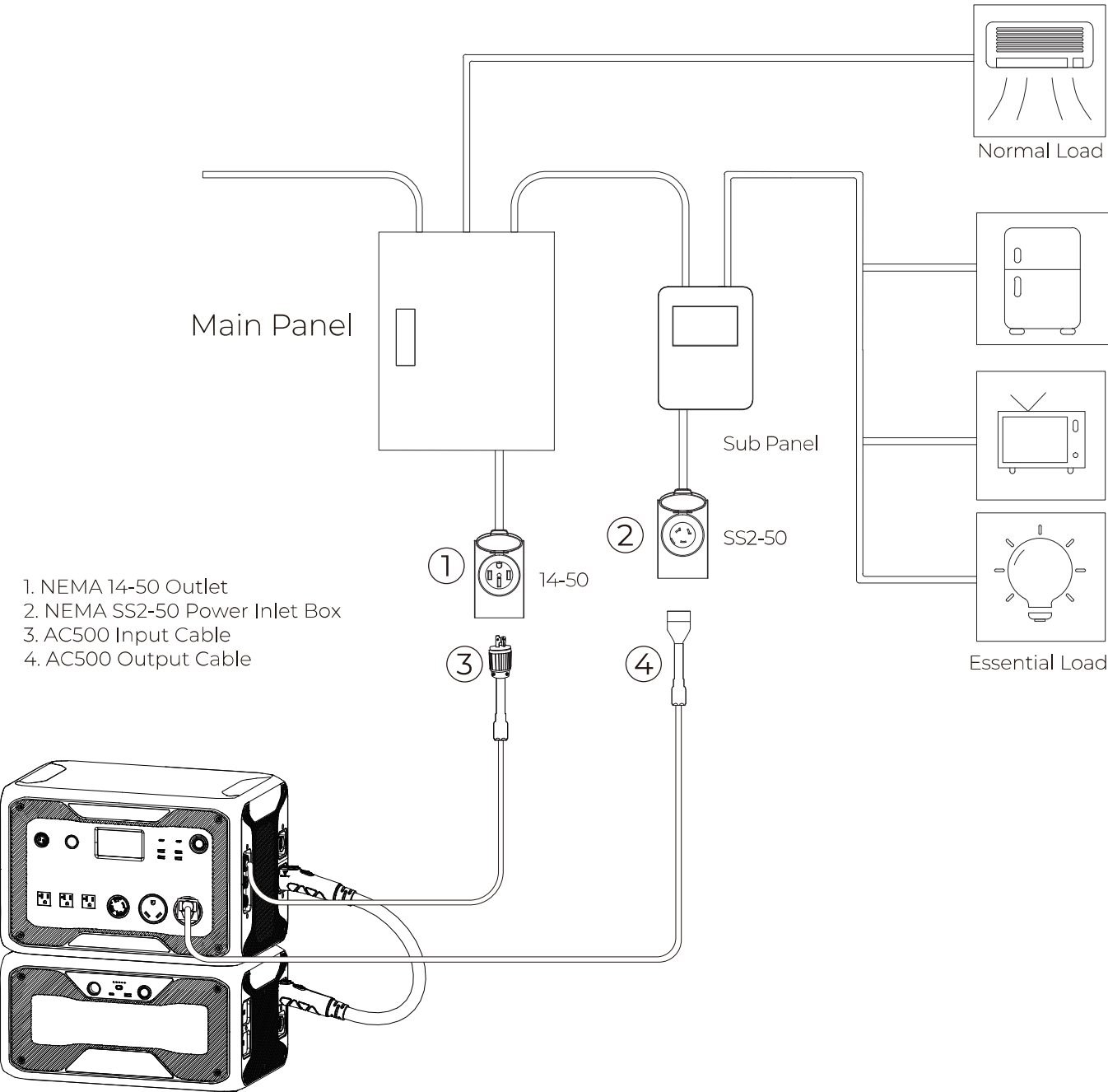
1. 120 Volts AC500+B300S Backup System

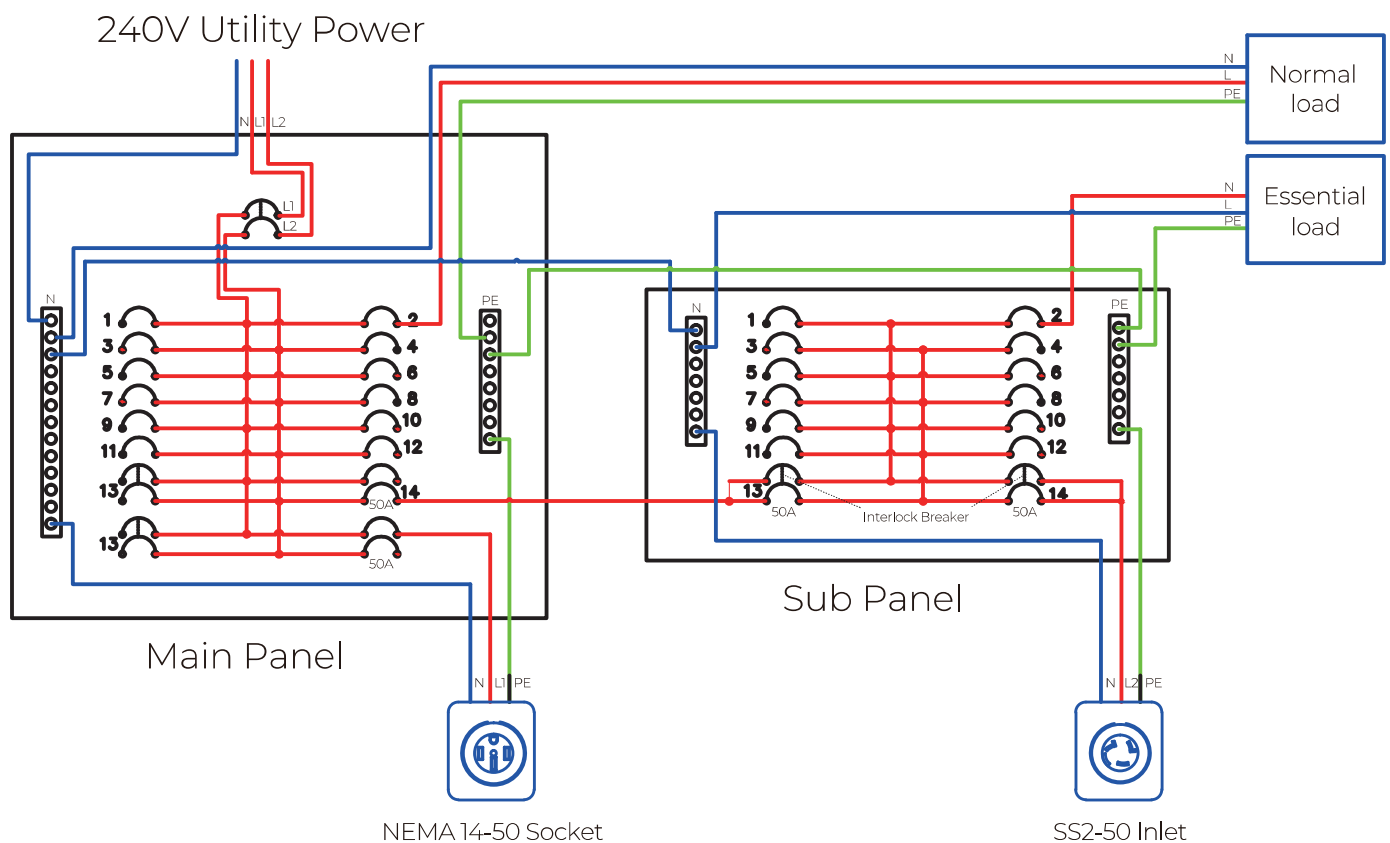
AC500+B300S's Machine Type is set to "Single Phase" by default. DO NOT change this setting if you are operating a single AC500+B300S set.

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.

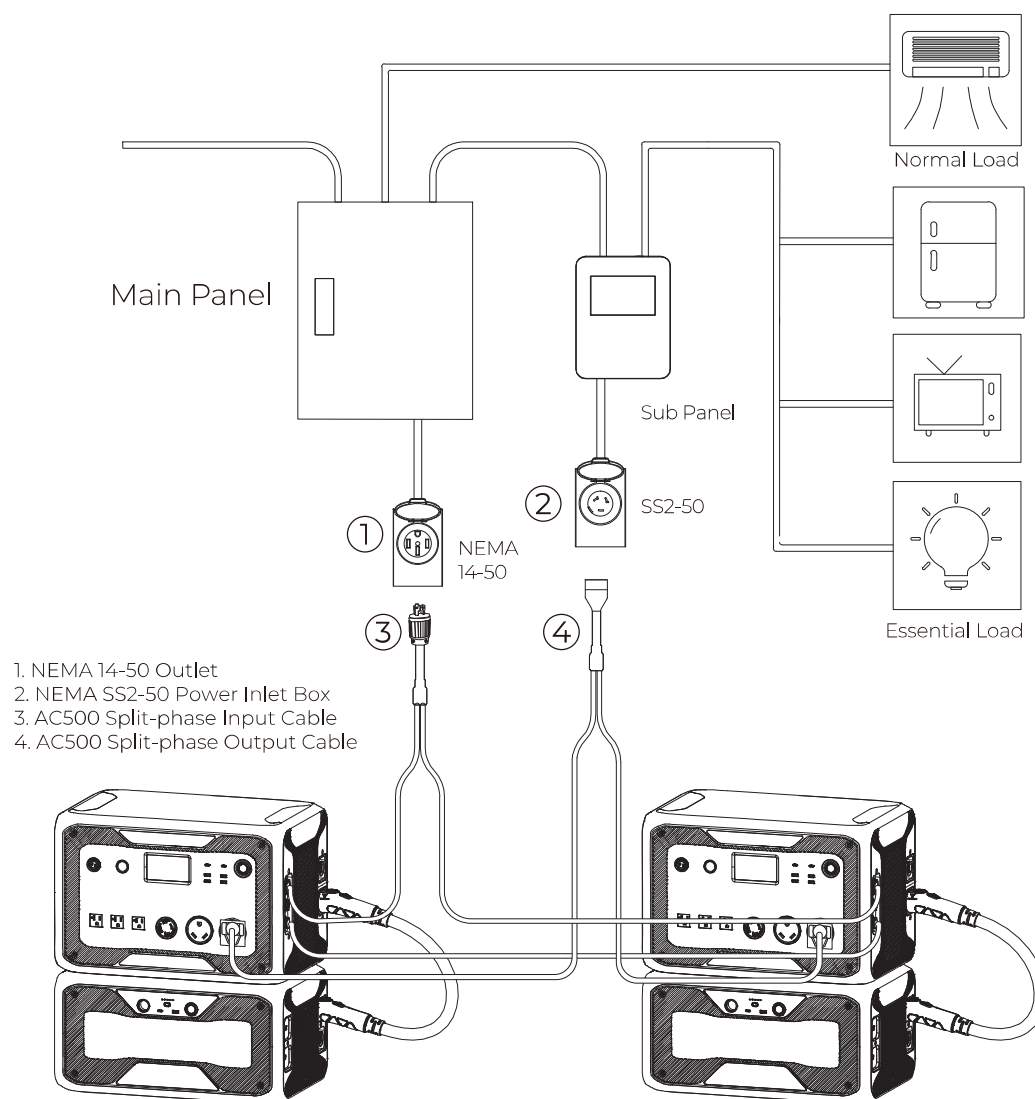
2. 240 Volts AC500+B300S Backup System

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: 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



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”.

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



If the connection fails, clear the alarm history, wait for a moment or then try 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.

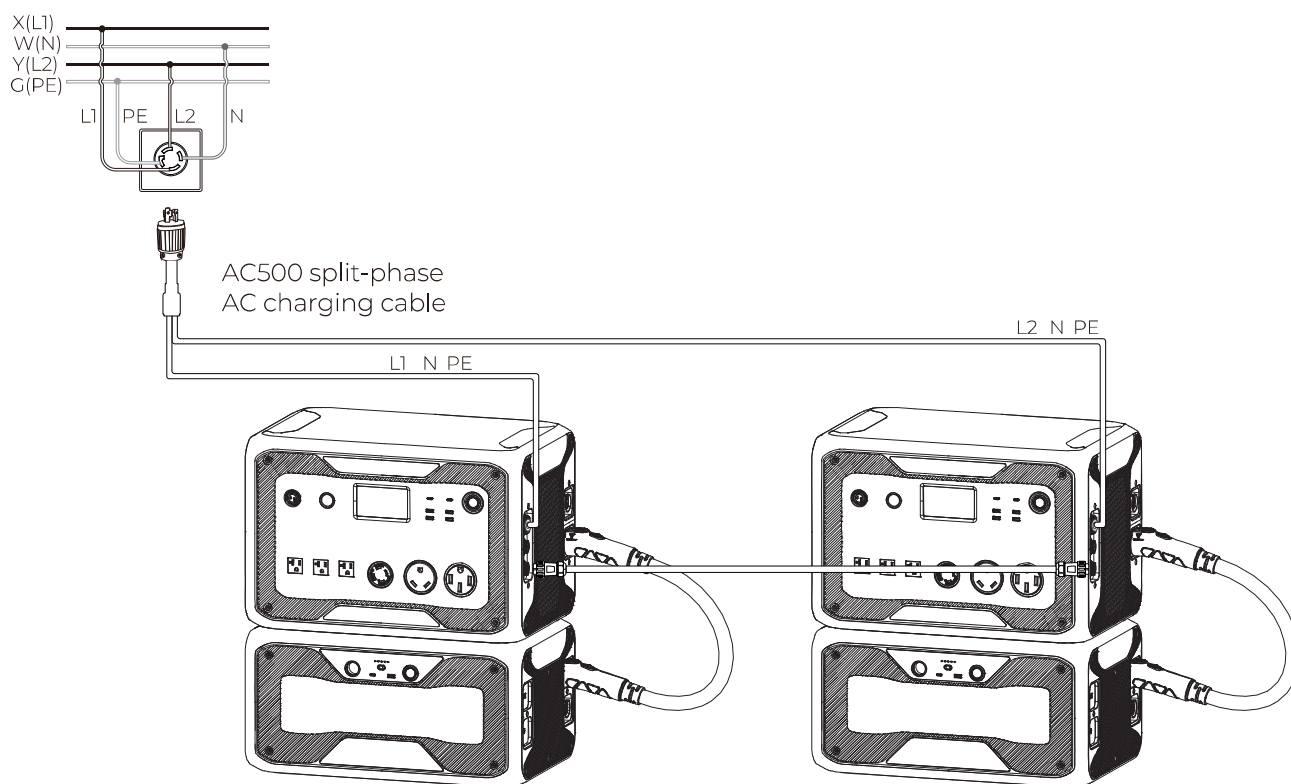
NOTE:

- 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.

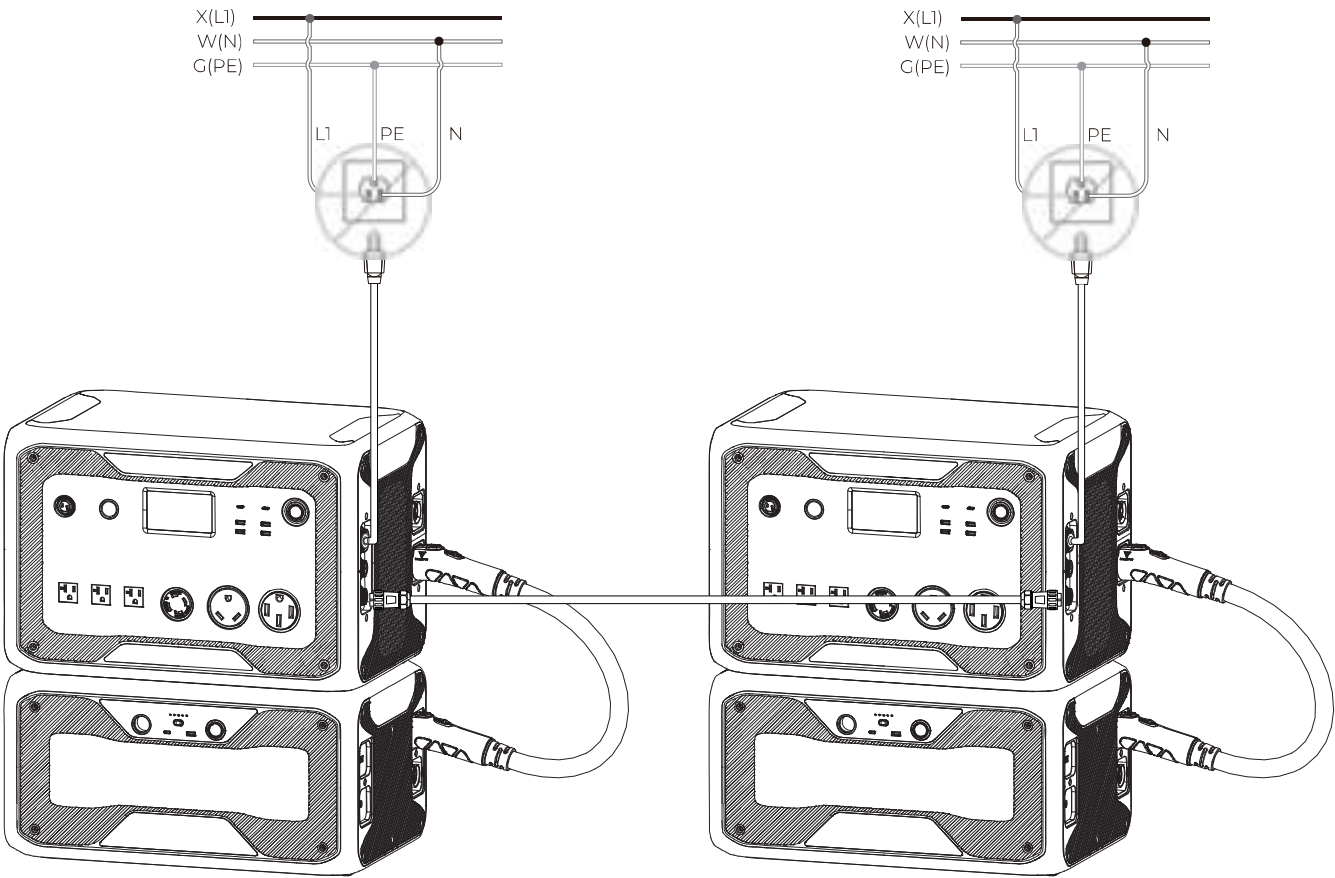
The AC input ports should be connected to L1/N/PE and L2/N/PE, respectively. The current capacity of AC input plug shall be $\geq 50A$.



WRONG CONNECTION

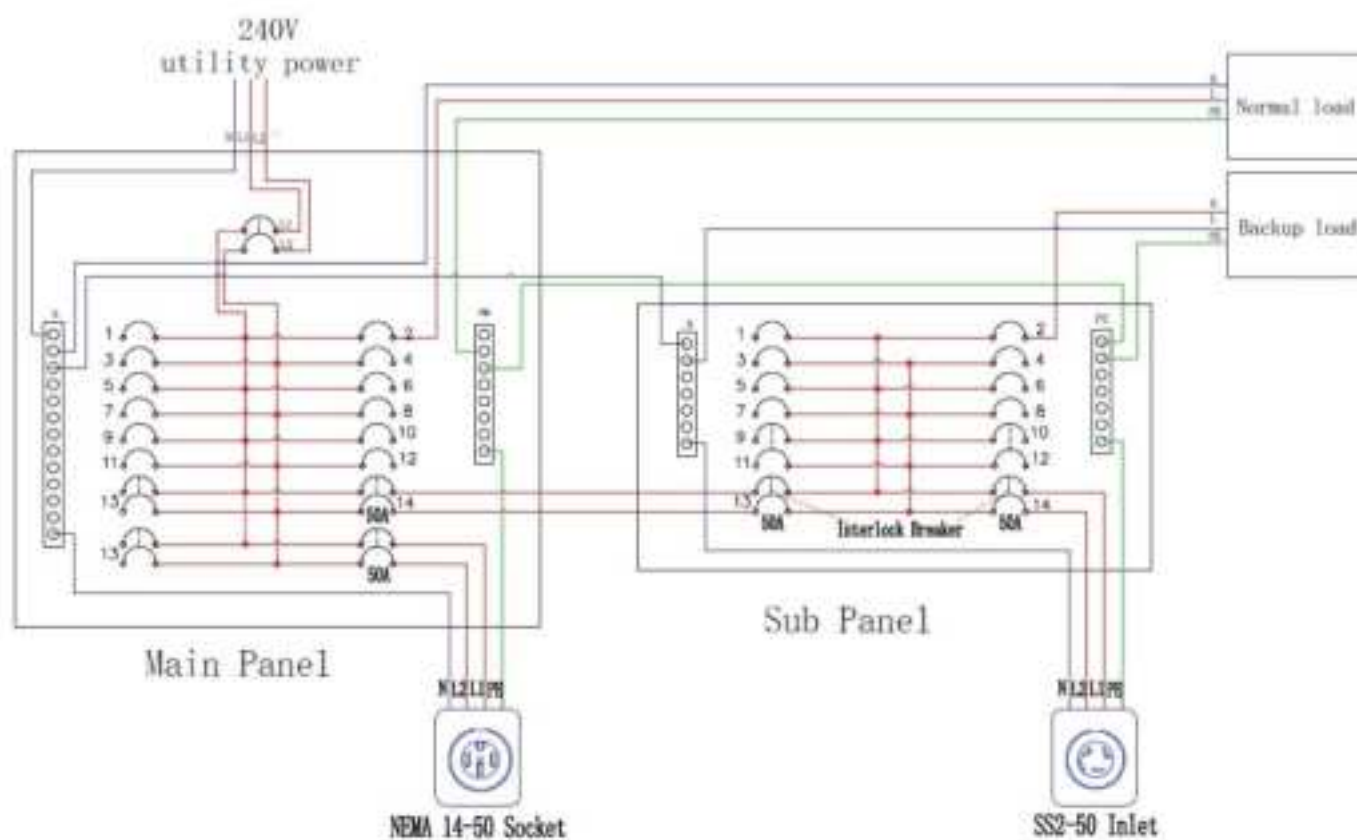
Warning! DO NOT charge AC500+B300S with standard AC charging cable in the split phase system, as this may cause damage to the batteries inside B300s and invalidate your warranty.

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

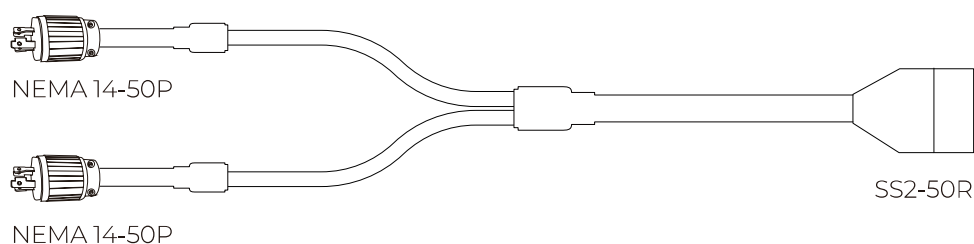
<https://www.bluettipower.com/collections/accessories>

50A AC Charging Cable



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>

50A AC Charging Cable



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.

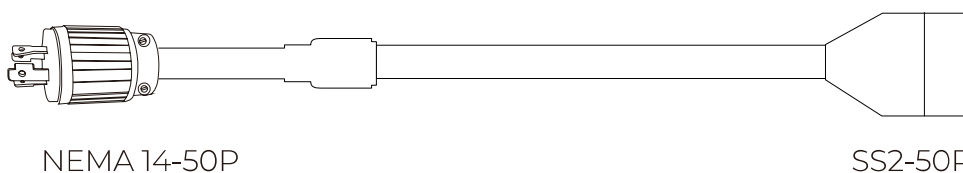
<https://www.bluettipower.com/collections/accessories>



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

For connecting AC500+B300S to the sub panel.

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



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

