Solar + Battery Kit (Order and Assembly Advice)

Important Safety & Legal Notice

▦ **Please Read Before Using This Guide**

We want you to stay safe and informed! This free resource is provided "as is" - meaning we don't make any promises about it. By using this guide, you agree to these key points:

🔍 **What We Don't Promise**

We explicitly rule out any guarantees about:

- Working perfectly for your situation
- Being technically accurate or up-to-date
- Following your local laws
- Being safe to implement

⚠ **Your Responsibilities**

You're taking full responsibility for:

1. Safety First

  o Unplugging everything before working
  o Using proper tools/protective gear

2. Checking Compatibility

  o Matching wires/connectors
  o Verifying third-party products

3. Following Rules

  o Local electrical codes
  o Battery disposal laws
  o Manufacturer instructions

      o   Other rules/laws not listed here

❗ What We Can't Be Responsible For

To the fullest extent permitted by law, we exclude liability for:

- Broken equipment or devices
- Injuries or property damage
- Fines from incorrect installations
- Issues with products you buy elsewhere

🌐 About Other Companies' Products

Links to solar panels/batteries:

- Aren't recommendations
- Don't mean we've tested them
- Could have outdated specs - always check with the maker!

Critical Reminder

🔌 This is NOT a substitute for professional help!

If you're unsure about anything:

1. Stop and consult a licensed electrician
2. Review manufacturer guides thoroughly
3. When in doubt, don't take risks

Thanks for being safety-smart! Proper setup leads to better adventures. ☀
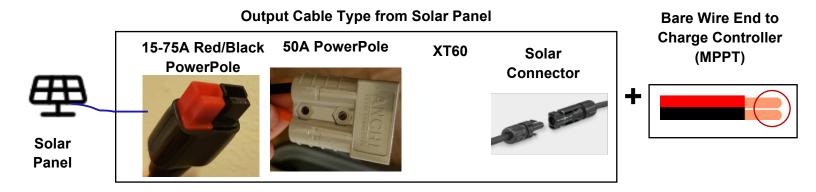
Ordering

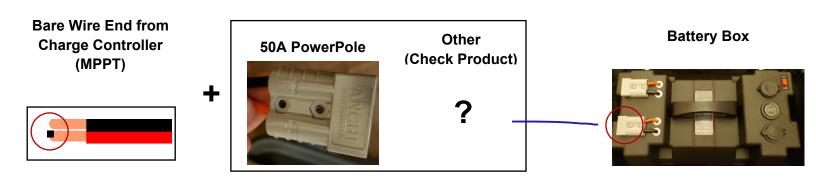1. Think about your group's needs and size your system at readyblocks.org

2. Click on the cart links and order each component that you need

For Connector Cables:

Ensure you have a connector cable matched to your solar panel's **output cable**

Output Cable Type from Solar Panel

Bare Wire End to Charge Controller (MPPT)

Solar Panel

15-75A Red/Black PowerPole

50A PowerPole

XT60

Solar Connector

+

And a connector cable matched to your battery box**'s input cable type**

Bare Wire End from Charge Controller (MPPT)

+

50A PowerPole

Other (Check Product)

?

Battery Box

Note: It's recommended to choose **12AWG** wires. AWG is a measure of wire thickness — lower AWG means thicker wires. 10AWG wires and less (thicker than 12AWG) may not fit inside the charge controller.

3. When selecting solar panels and battery boxes, confirm their output and input cable types. You can look at their pictures when ordering, or if searching on Amazon, Google the product name and the "Sold by" label to find the product on the manufacturer's website. They often offer **product manuals** and **more information**, so you can find the information you need.

4. When you have a cart of items that will connect to each other, place your order! Keep in mind 30 day return policies in case anything doesn't work as expected.

<u>Checking Parts</u>

When your parts arrive

1. Ensure you have all needed parts:

☐ Solar Panel. ☐ Charge Controller ☐Battery ☐ Battery Box ☐ Cables ☐ Wire Crimper

☐ All needed parts

2. Ensure cables match before assembling

☐ Solar Panel connects to Panel Output Cable — w/ bare wire on other end

☐ Battery Box connects to Battery Input Cable — w/ bare wire on other end

☐ Open battery box lid, insert battery, and ensure battery box cables connect to battery screw posts

⚠ Ensure the Panel Output Cable is **<u>unplugged</u>** from the solar panel, and the Battery Input Cable is **<u>unplugged</u>** from the battery box.

☐ Unscrew the screw terminals on the charge controller to loosen (not unscrew completely), and ensure the **bare wire** ends of the cables fit inside the screw terminals

 You may need to remove the rubber covers on the end of the wires and insert the bare wire ends into the screw terminals. The wire crimper is there to help you with this. Be sure not to damage the bare wires underneath when removing the coverings.

If the bare wire ends of the cables fit inside the charge controller, you can tighten the screws (making sure the bare wires are snug and tight), and connect the cables to the charge controller and leave them like that!

To ensure the cables are connected tightly in the charge controller, you can pull on them gently, and make sure they remain tight and snugly fit.

☐ All cables fit

Assembling

Putting the parts together!

*Before continuing, make sure both the Solar Panel and Battery Box are **disconnected** from the charge controller. The Solar Panel should not be connected, the Battery Box should not be connected, and the cables coming from charge controller should not be connected anywhere.*

Whenever assembling the system, you never want the Battery Box to be <u>receiving energy</u> when you are connecting or disconnecting it.

1. Bring the solar panel, battery box (with battery inside), and charge controller (with cables attached) to a location in the sun.

2. Plug the Battery Box cable from the charge controller into the Battery Box plug.

3. Unfold the solar panel, ensuring its in full sun and there is no shade blocking it

> *Small amounts of shade in front of the panel can affect performance or stop electricity generation*

4. When the solar panel is in full sun, plug the Solar Panel cable from the charge controller into the Solar Panel cable

5. Look at the **screen** on the charge controller. You should see the voltage and amps being output by the solar panel, and the charging level of the battery!

That's it!

Now you can plug **devices** into the battery box, power **electric coolers** and **lights,** charge **phones** and **laptops,** power **fans** and **speakers** ... And more!

Disassembly

1. **Unplug the solar panel** from the charge controller

Ensure the solar panel is **<u>completely disconnected</u>** from the charge controller

2. If the battery box has an on/off switch, turn it **off**

3. **Unplug the battery box** from the charge controller

4. Follow product manuals for safe storage of equipment (e.g. appropriate temperatures, conditions)