**Battery Tips**

We only sell high-quality Lithium Iron Phosphate batteries that have an internal BMS, and have selected our favorites to keep in stock. Any battery you purchase through us will have industry standard over-temp, under-temp, over-volt, and under-volt protection built into the BMS. They can be mounted in any orientation except upside-down, do not offgas, and have many other functionality benefits over lead-acid batteries. Below are some specific usage tips for the batteries we offer, your invoice will specify which model you have.

IMPORTANT INSTALL NOTE: It is very important for the long-term health of the battery bank that you use each battery evenly. You likely have seen parallel arrangements where a line of batteries connects positive to positive and negative to negative to each of its neighbors. Over the lifespan of a lithium battery bank this setup will result in the outer batteries aging faster than the inner batteries, resulting in a battery bank that ages unevenly and fails early. The proper method, which is to use same-length lines for each battery, is best explained as an example: You have 3 batteries, each connected to a positive and a negative distribution block per our diagram. If each positive line is 3ft and each negative line is 2ft, that's correct. If each positive line is 10ft and each negative line is 15ft, that's awfully long but still correct. If one positive is 4ft and the other positives are 3ft, that is not correct.

**Lion Energy UT1300 Lithium Iron Phosphate Batteries**

- The terminals of the batteries have both posts and wingnuts on top of the post. The posts are stainless steel and have a fairly high resistance, so it's best to ignore the wingnuts for the main connections, and use the posts to attach instead. You can use the wingnuts on top for small wires, i.e. voltage sensing wires, but you want the main connections to the system to be under the posts.

- These batteries have a button on the top which can be used to quickly check the charge level and reset the BMS if needed. The 5 LEDs will illuminate when the button is pressed, showing roughly 20% charge per LED. A single flashing LED indicates a nearly-empty battery. If you press the button and no LEDs illuminate the battery is in a lockout mode, which can be reset by holding the button until the LEDs flash. This may happen for a range of reasons, most commonly when the battery has been fully discharged and has shut off to protect the cells.

**LightHarvest Solar 12V 200AH LiFePO4 Batteries with Integrated Bluetooth**

- Our app for connecting to the batteries via Bluetooth can be found on both Apple and Android by searching your app marketplace for "LightHarvest Solar". This will allow you to view data such as voltage, input/output current, temperature, and percentage of capacity remaining.

- These batteries have a button on the top which can be used to quickly check the charge level and reset the BMS if needed. The 5 LEDs will illuminate when the button is pressed, showing roughly 20% charge per LED. A single flashing LED indicates a nearly-empty battery. If you press the button and no LEDs illuminate the battery is in a lockout mode, which can be reset by holding the button until the LEDs flash. This may happen for a range of reasons, most commonly when the battery has been fully discharged and has shut off to protect the cells.