

# STEPPING INTO A PARALLELING UNIVERSE CAN I USE A BANK OF BATTERIES?

BMPRO  
**INVICTA**  
A BETTER BATTERY



**There has been some conjecture since lithium batteries arrived on the market regarding whether they can be run on a series, or a parallel bank.**

With the Invicta range, the LiFePO<sub>4</sub> batteries have been tested both in-house by BMPRO and by the manufacturer, so we know, unequivocally, they can. In fact, testing proves that Invicta lithium batteries can be installed in parallel with up to four batteries.

However, there are best-practice methods to follow when running a parallel bank.

BMPRO recommends fully charging each battery individually and have an Open Circuit Voltage (OCV)—the measure of energy potential between positive and negative—after being rested for at least one hour and with no loads connected, are within 0.2V of each other.

Keep parallel bank to a maximum of four lithium batteries. Ensure they are the same brand, the same size, and the same age.

Use wiring that can carry a higher amperage. Remember that by paralleling, the nominal voltage is the same at 12V, but the amp hour capacity has increased, making the discharge

and charge higher. Good wiring also means to drop a fuse in the anode (positive) side. Keep the length of the wiring consistent. If one wire is longer than the other, it alters the resistance within the pack of batteries.

Double check all positives are connected and, likewise, all negatives. Do not reverse the polarity and never series a parallel bank of batteries.

Every three months ensure the pack is fully recharged. Remember that if you need to replace one battery in the pack, you will need to replace them all.

Provided you follow these critical steps and take proper care and maintenance of your lithium parallel bank, the Invicta LiFePO<sub>4</sub> can offer substantial benefits to off-grid camping.

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