

CHOOSING THE RIGHT SIZE BATTERY BANK

All batteries have voltage and current limitations. Lithium Ion batteries are no different. In fact, the limits are even more important as the built in energy management system (EMS) will not let you exceed the limits.

It is important to understand how to choose the right battery(s) for your application so you do not cause the EMS to turn off the battery because you ask it to operate outside the design parameters. Each LiFeBlue Battery data sheet show the limits for charging and discharging. Look at the data sheet for the battery you are interested in.

If you are using a single battery or a single string of batteries in Series, the current limits on the data sheet are accurate. If you plan to connect batteries in parallel, the current is distributed equally between all batteries. This is the most common use.

Here's an example: Lets look at the LB12200-HC battery. It can charge at 120 Amps or up to 150 Amps @ 75° internal temperature. The discharge current is 150 Amps continuous and 200 Amps for 30 minutes. If you will not charge or discharge above these ratings, then a single battery will work for you.

Many people have large inverters of 3kW or more. At full load, the inverter can use 275 Amps or more. In this case, a single LB12200-HC battery will not work. You need to have 2 batteries in parallel so the current is divided and you do not exceed the maximum rating.

The same rules apply for charging. Lets say you have 800 Watts PV solar power and a 150 Amp battery charger and the alternator can produce 100 Amps. It is conceivable to charge at over 300 Amps if all these sources were on at the same time. This would exceed the charge limit of a single battery but could work fine with 2 batteries.

Remember to consider all loads and all charge sources that can be used simultaneously in choosing the right battery bank size. We know this is not easily understood. If you need assistance in calculating which batteries to buy, please contact us. We are always glad to help you.