

ContainerPower Energy Solutions

4 sets of 12v lithium battery packs

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Overview

What is a 12V lithium battery series system?

The 12V lithium battery series system requires stricter parameter matching and a higher specification protection system. When multiple 12V lithium batteries are connected in series, the total voltage increases rapidly, and the voltage resistance requirements for the protection board increase exponentially.

What is a 12 volt battery?

It is essentially a measure of how long the battery can last before it needs to be recharged. When choosing lithium cells for a 12V battery, you need to consider both voltage and amp hours. To achieve 12 volts, you can either use multiple cells connected in series or choose lithium cells with higher nominal voltages (such as 3.7V).

How many cells are needed for a 12V battery?

To determine the number of cells required for a 12V battery, you need to know the nominal voltage per cell. Most lithium cells have a nominal voltage of around 3.7 volts. So if you divide 12 by 3.7, you get approximately 3.24. Since you cannot have fractional cells in practice, rounding up would be necessary here.

How to connect 12V lithium batteries in series?

To safely connect 12V lithium batteries in series, the following options should be considered: Customized high voltage protection board: 48V system requires a protection board with a voltage of at least 80V, and the MOSFET selection must match the total voltage.

How many volts can a lithium battery produce?

To achieve 12 volts, you can either use multiple cells connected in series or choose lithium cells with higher nominal voltages (such as 3.7V). For example,

four lithium cells with a nominal voltage of 3.7V each would add up to 14.8 volts when connected in series.

How many volts can a 3.7V lithium battery get?

For example, 4 pieces of 3.7V lithium batteries connected in series can get an output voltage of 14.8V, but the capacity remains unchanged. Series connection is the most common method to make the battery pack reach the required operating voltage. Series connection is the best choice when you need more voltage rather than more capacity.

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