

# **Lithium battery packs can be connected in series**





## Overview

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Why are lithium batteries connected in series?

Lithium batteries are connected in series when the goal is to increase the nominal voltage rating of one individual lithium battery - by connecting it in series strings with at least one more of the same type and specification - to meet the nominal operating voltage of the system the batteries are being installed to support.

Are series and parallel connection of lithium batteries safe?

The series and parallel connection of lithium batteries is a key technology to increase voltage and capacity, but it also contains safety risks. This article will analyze in detail the principles, methods and precautions of series and parallel connection of lithium batteries to help you avoid potential risks and build a battery system correctly.

How many lithium batteries can be connected in series?

For instance, LiTime allows for a maximum of four 12V lithium batteries to be connected in series, resulting in a 48-volt system. It's always important to consult the battery manufacturer to ensure that you stay within their recommended limits for series connections.

Can lithium-ion batteries be connected in parallel or in series?

Connecting lithium-ion batteries in parallel or in series is not as straightforward as a simple series-parallel connection of circuits. To ensure the safety of both the batteries and the individual handling them, several important factors should be taken into consideration.

How to charge parallel lithium battery packs?

Specific principles must be followed when charging parallel lithium battery packs: Use a matching charger: The voltage must be suitable for the nominal voltage of the individual batteries. The current setting is reasonable: usually



0.2-0.5C of the total capacity after parallel connection.

When should a lithium battery be connected in series?

You should connect lithium batteries in series when your device requires a higher voltage than a single battery can provide. For example, if your device operates at 7.4V, connecting two 3.7V batteries in series would be appropriate. This setup is commonly used in applications like electric scooters, drones, or other high-voltage devices.



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### [Optimal fast charging strategy for series-parallel configured lithium](#)

The limited charging performance of lithium-ion battery (LIB) packs has hindered the widespread adoption of electric vehicles (EVs), due to the complex arrangement of numerous ...

### [Lithium Battery Series & Parallel Operation , Fact Sheets](#)

Battery packs are designed by connecting multiple cells in series; each cell adds its voltage to the battery's terminal voltage. Figure 1 below shows a typical EarthX 13.2V LiFePO4 starter ...



### [Connect Batteries in Series and Parallel: What's the Best Way for ...](#)

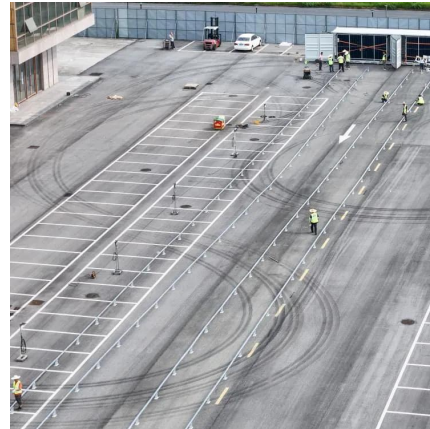
For series, link the negative of one battery to the positive of the next. Connect the first battery's positive to your load, then its negative to the second battery's positive, and the ...

### [Lithium Series, Parallel and Series and Parallel](#)

Connecting multiple lithium batteries into a string of batteries allows us to build a battery bank with the potential to operate at an increased voltage, or with increased capacity



and runtime, or both.



### [How to Calculate the Number of Lithium Batteries in Series and in](#)

Lithium Battery PACK Lithium battery PACK refers to the processing, assembly and packaging of lithium battery packs. The process of assembling lithium batteries into groups is called PACK, ...

### **Management of imbalances in parallel-connected lithium-ion battery packs**

To meet the power and energy requirements of the specific applications, lithium-ion battery cells often need to be connected in series to boost voltage and in parallel to add ...



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