

# Pack batteries in series and parallel





## Overview

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What is the difference between a series and parallel battery?

**Series Connection:** In a battery in series, cells are connected end-to-end, increasing the total voltage. **Parallel Connection:** In parallel batteries, all positive terminals are connected together, and all negative terminals are connected together, keeping the voltage the same but increasing the total current.

What is a battery pack configuration?

Battery pack configurations determine how much power a battery can provide and for how long. Whether you're choosing a battery pack for an electric vehicle, a robotics project, or an energy storage system, understanding the difference between series and parallel connections can help you make the best decision.

What are the basic principles of a battery pack design?

The diagram below shows the basic principles. In most pack designs the cells are connected in parallel blocks (when P is greater than 1) and then in series. This is an important factor in managing the battery configuration. However, we will also discuss connecting series strings of cell in parallel as a separate article.

How to assemble large battery packs?

When assembling large battery packs it is necessary to connect cells in series and parallel. Actually the normal method is to assemble them in parallel groups and then to assemble these groups in series. Firstly it is worth remembering what is meant by parallel and series.



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A series-parallel system is a combination of both series and parallel connections, forming a series-parallel circuit. Some components are connected in series, while others are connected ...



### [Batteries in Series and Batteries in Parallel , Electrical4U](#)

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### [Batteries in Parallel vs Series, All You Need to Know](#)

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### [Series vs Parallel Battery Wiring: The Ultimate 2025 Guide](#)

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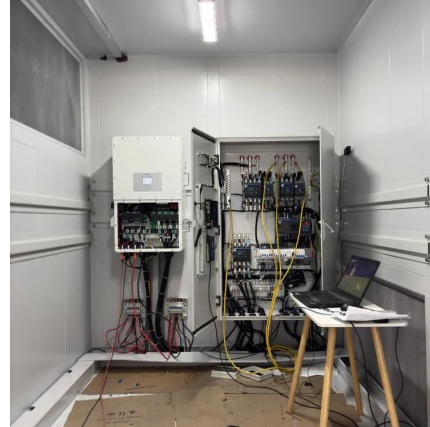
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