

SolarTech Power Solutions

Can lithium battery packs be connected in series at will



Overview

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.

Can lithium batteries be wired in series?

So, in review, wiring lithium batteries in series is just as simple as wiring lithium cells in series. The difference is that lithium batteries have a BMS which contains MOSFETs that might not be able to handle the higher voltage that they would experience when one battery dies.

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.

Should lithium batteries be connected in parallel?

Connecting lithium batteries in parallel increases the battery bank capacity and the total stored energy. No matter the BMS design, because both solid-state-relays and mechanical relays have current limits, the BMS maximum current limits must be respected when designing a parallel connected bank of lithium batteries with built in BMS.

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.

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.

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