

## SolarInnovate Energy Solutions

# Lithium battery pack low voltage protection voltage



## Overview

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The lowest permitted “low-voltage” power cut-off is 2.5V/cell. Do lithium batteries need a safety protection function?

Lithium battery applications are ubiquitous, but they require good management to ensure safe and reliable use, especially to prevent the voltage from dropping below the safety line, which we call over-discharge. This requires all batteries to have a safety protection function, which is low voltage cut-off protection, abbreviated as LVC.

Does a lithium battery have a low voltage cutoff?

Low voltage cutoff is a key safety feature, but it is not a universal voltage value that applies to all lithium batteries. Different batteries have their own unique chemical systems and therefore have different discharge cutoff voltages.

What is low voltage cut-off protection (LVC)?

This requires all batteries to have a safety protection function, which is low voltage cut-off protection, abbreviated as LVC. It is like a smart safety switch. Its function is to automatically detect when the battery voltage is about to drop to a dangerous level and cut off the power supply from the battery to the device in time.

What is the minimum discharge cutoff voltage for a lithium ion battery?

Different batteries have their own unique chemical systems and therefore have different discharge cutoff voltages. The discharge cut-off voltage of a single-cell lipo battery is generally 2.5 ~ 3V, the safe cut-off voltage of a lifepo4 battery is 2.5V, and the minimum discharge cut-off voltage of a 18650 battery is 3V.

How do you safely use lithium ion or lithium polymer batteries?

To safely utilize lithium-ion or lithium polymer batteries, they must be paired

with protection circuitry capable of keeping them within their specified operating range.

Why do you need a battery protection IC?

That is why we design our battery protection ICs to detect a variety of fault conditions including overvoltage, undervoltage, discharge overcurrent and short circuit in single-cell and multi-cell batteries, so you can enhance the safety of your battery pack.

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### Design of Voltage Equalization Circuit and Control Method for Lithium

Jan 31, 2025 · The active equalization of lithium-ion batteries involves transferring energy from high-voltage cells to low-voltage cells, ensuring consistent voltage levels across the battery ...

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