



MODERNIZATION SOLAR

# BMS is inside the battery





## Overview

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BMS (Battery Management System) is an integrated hardware-software system designed to monitor, protect, manage, and optimize the operation of rechargeable batteries—especially lithium-ion cells. What is battery management system (BMS)?

Battery Management System (BMS) is the “intelligent manager” of modern battery packs, widely used in fields such as electric vehicles, energy storage stations, and consumer electronics.

How does a BMS protect a battery pack?

Monitoring battery pack current and cell or module voltages is the road to electrical protection. The electrical SOA of any battery cell is bound by current and voltage. Figure 1 illustrates a typical lithium-ion cell SOA, and a well-designed BMS will protect the pack by preventing operation outside the manufacturer’s cell ratings.

What is a BMS battery & how does it work?

These protections include over-current (OC), over-voltage (OV), under-voltage (UV), over-temperature (OT), and under-temperature (UT) conditions. The BMS guarantees the battery’s longevity and safety by prohibiting it from running outside of its safe operating area (SOA).

How do battery management systems work?

Battery management system (BMS) is technology dedicated to the oversight of a battery pack, which is an assembly of battery cells, electrically organized in a row x column matrix configuration to enable delivery of targeted range of voltage and current for a duration of time against expected load scenarios.



## BMS is inside the battery



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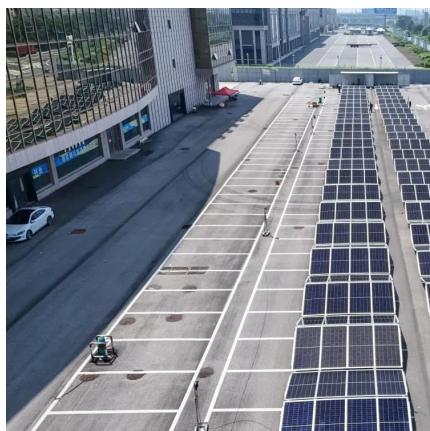
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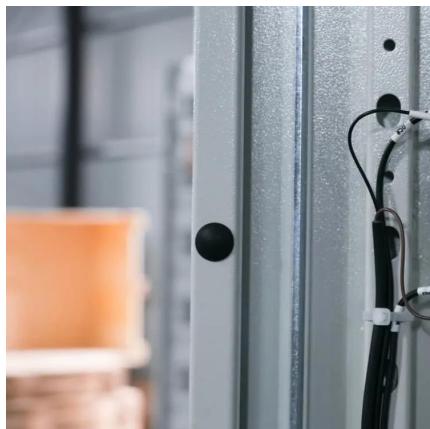
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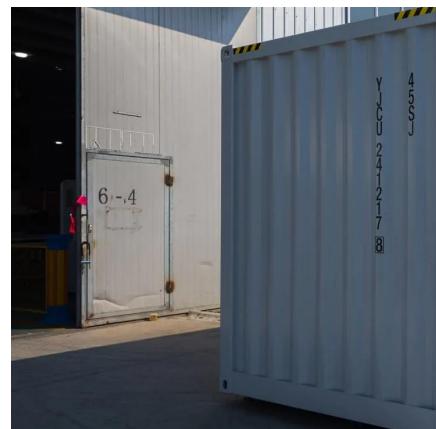
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