

# Power battery pack and bpms





## Overview

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What is battery power module (BPM) based architecture?

Battery power module (BPM)-based architecture has attracted more attention. BPM consists of low power DC converter combined with battery cell. BPMs are connected in series and parallel to fulfill the required output voltage and current.

How many BPMs are in a battery brick?

Each battery brick consists of three parallel output connected BPMs, which employ three battery cells and three 100 W dc/dc converters. This article presents a new state-of-charge (SOC) balancing method with parallel and series output connected battery power modules (BPMs) in an active battery management system (BMS.).

What is a BPM battery?

Each BPM consists of: 18650-size cylindrical lithium-ion battery cell. The battery cell has a nominal voltage of 3.7 V, and a capacity of 2.2 Ah. Synchronous buck-boost DC-DC converter to process the power between each battery cell and the output bus.

Is BPM 1 regulated at 16 volts?

Upon SoC balancing, it is shown that both the output voltages of BPM 1 and BPM 2 are regulated at 8 V as shown in Fig. 5 (b). Thus, the DC-bus voltage is still well regulated at 16 V. Fig. 5 (d) shows that the battery cells' voltages of BPM 1 and BPM 2 are slightly different.



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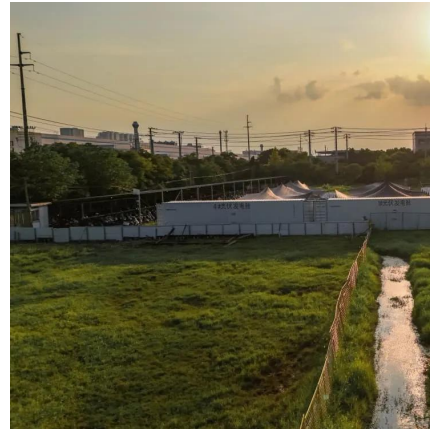
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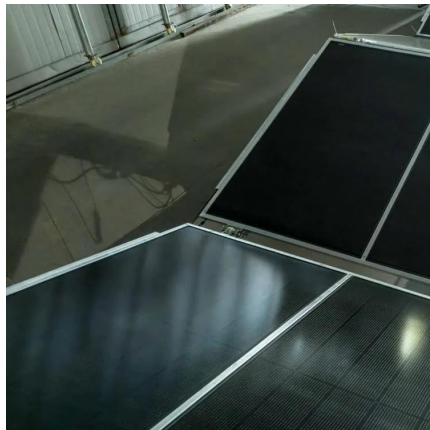
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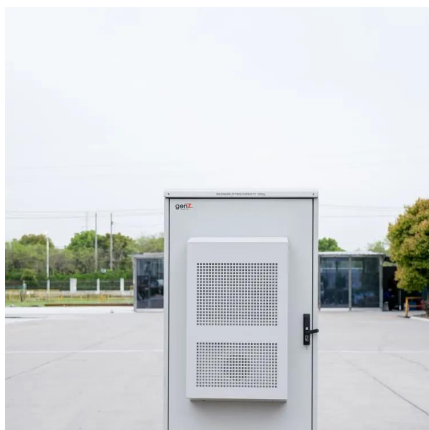
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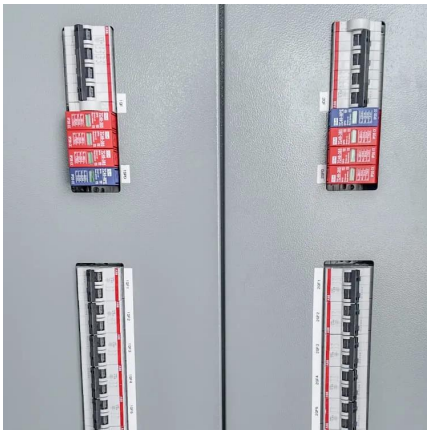
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