

PDEOZE PowerContainer

Differences between the master and slave controllers of the battery system BMS



Overview

What is a master-slave battery management system (BMS)?

She excels in IoT devices, new energy MCU, VCU, solar inverter, and BMS. As the new energy market expands increasingly, efficient energy storage solutions have been regarded as the most important sector. The Master-Slave Battery Management System (BMS) is an innovation that seamlessly combines performance, safety, and sustainability.

How does a slave controller module communicate with a BMS?

Slave controller modules receive their energy from the battery cells they are connected to. This connected modules. The slave and main controller modules communication. The BMS circuits are isolated from each controller module communication output. charging unit. After these operations, the BMS sends the necessary commands to the slave module.

What is a master slave BMS?

Purpose of Master, Slave BMS. The main master BMS (or battery controller) controls elements such as battery chargers, contractors and external heating or cooling drivers. Battery state algorithms were programmed to calculate the State of charge, State of health, and power capability.

How BMS slave balancing a battery?

During the balancing process, BMS Slave#1 achieve the balanced condition for battery module 1 at $t = t_1$, BMS Slave #2 achieve the balanced condition for battery module 2 at $t = t_2$ and the BMS Slave #3 achieve the balanced condition for battery module 3 at $t = t_3$.

How do BMS slaves work?

Six cells (each having a voltage range of 15 V-25.2 V) are connected in series to form a battery module and the BMS Slaves provide the balancing among the cells of the respective module. The BMS Master performs the balancing

operation in the battery pack formed by the connection of three battery modules.

What is battery management system (BMS) for lithium based batteries?

Incorrect use of these batteries can lead to burning, explosion or shortening of the life of batteries. In this paper, a Battery Management System (BMS) for lithium based batteries is designed that operates more efficiently and communicates with UART between master and slave modules and can communicate via CAN protocol with external devices.

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The slave board of BMS collects the cell data (voltage, temperature) using the sensors. The slave board has AFE which processes the received data to the master board using the SPI communication channel.

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