

SolarTech Power Solutions

How to connect the signal line of the flow battery in the communication base station



Overview

How does a BMS communicate with a central control unit?

Then, using this data, the central control unit will be able to issue commands to the BMS, for example, to limit the current output, to start the cooling process, or to isolate the battery in case of critical problems. The communication protocol is a key player in allowing the information to be exchanged.

Why do cellular base stations have backup batteries?

[.] Cellular base stations (BSs) are equipped with backup batteries to obtain the uninterruptible power supply (UPS) and maintain the power supply reliability. While maintaining the reliability, the backup batteries of 5G BSs have some spare capacity over time due to the traffic-sensitive characteristic of 5G BS electricity load.

How do you use a diode in a communication line?

To implement the first method, a diode is placed in the communication line with a parallel capacitor and high-value pull-down resistance on the battery side of the diode. The diode is typically a Schottky diode to reduce the impact on the communication noise margin.

What is the best design practice for a battery pack?

The best design practice is to use circuitry in the battery pack that does not have an internal substrate diode to VCC. This has a side benefit of preventing the battery-pack electronics from being able to clamp the communication line to a low VCC value resulting from a depleted battery.

How do PCB layout and connection drops affect voltage measurements?

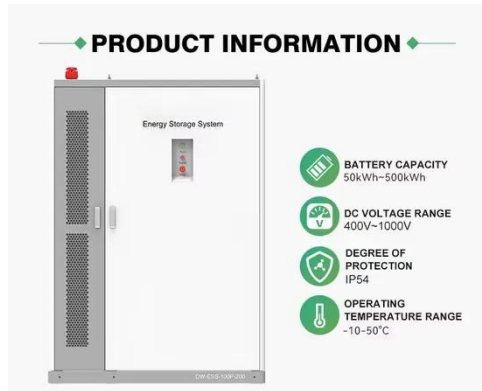
Voltage measurements of the battery stack are also affected by PCB layout and connection drops. Some battery-pack designs may use nickel straps from the PCB connection to the battery stack. Nickel is used because it is easy to

weld to the battery cells, but its resistance is five times as much as that of copper.

How do you pull up a battery pack VCC?

The electrical path to pull up the battery pack VCC passes through the host capacitance from Pack+ to Pack-, through a substrate diode in the host interface driver from VSS to the communication or interface line, and through a substrate diode from this line to VCC in the battery-pack circuitry. The complete path is shown in Fig. 6.

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Battery Circuit Architecture

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Communication Protocol Reference Guide

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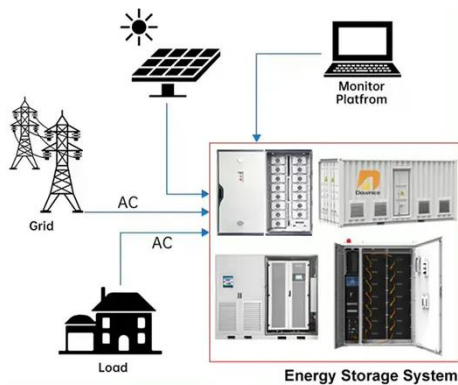


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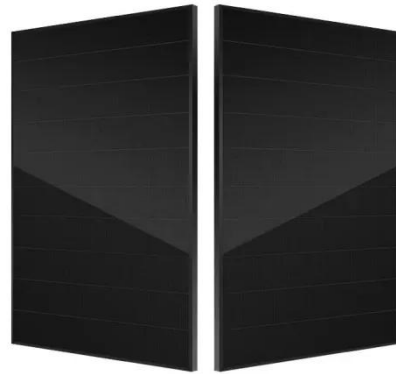
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