Battery parameter wireless acquisition system

How are battery parameter identification methods used in wireless power transfer systems?

Abstract: This article presents battery parameter identification methods considering a rectifier and battery load in wireless power transfer (WPT) systems. In order to reduce the cost and complexity brought by the wireless communication,the load parameters are usually identified through WPT primary side measurementto control the system.

What is wireless battery monitoring system?

The wireless battery monitoring system provides the valuable and real-time discharging behavior of lead-acid battery of obstacle avoidance robot. The parameters of interest are voltage and current output of a discharging battery. The module of the Bluetooth is designed for wireless serial port connection setup.

How to develop wireless monitoring system for battery?

The software platforms used to evolve wireless monitoring system for battery are Arduino IDE and PLX-DAQ programming tools. The code is written using Arduino IDE and uploaded to the Arduino board. For Microsoft Excel, the parallax data acquisition is the added extra software feature.

How a mobile robot carrying Battery Monitoring System Works?

The mobile robot carrying battery monitoring system regularly checks the key operational parameters such as voltage and current during discharging process. In this work, we have employed a wireless data acquisition system to monitor voltage and current output of the lead-acid battery of obstacle avoidance robot.

How can battery state estimation and load parameter identification be achieved?

Compared with the conventional methods,battery state estimation and load parameter identification are achieved in this article based on only one measured WPT primary side variable. First,the WPT equivalent load is quantitatively expressed,which contains both resistance and inductance components.

What is a battery management system (WBMS)?

In the context of the Internet of Things (IoT),a wBMS enables real-time monitoring and management of battery packs across various devices and platforms,thus enhancing operational efficiency and supporting predictive maintenance strategies.

The aircraft smart skin (ASS) with structural health monitoring capabilities is a promising technology. It enables the real-time acquisition of the aircraft''s structural health ...

An effective battery management system (BMS) is indispensable for any lithium-ion battery (LIB) powered systems such as electric vehicles (EVs) and stationary grid-tied ...

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This paper introduces a wireless battery management system (BMS) based on Bluetooth technology that minimizes the failure points in a battery pack, and makes individual ...

The purpose of this study is to develop a wireless data acquisition system (DAS) for the operation of low-power solar power plants (up to 10-20 kW) with a feedback function to prevent material damage from the ...

A Wireless System f or EEG Acquisition and Processing in an Earbud Form F actor with 600 Hours Battery Lifetime Marco Guermandi 1, Andrea Cossettini 2, Simone ...

Battery management system for an electric vehicle is an unavoidable system. For a battery system temperature monitoring, cell balancing, overvoltage, over current, fault ...

The DAQ system proposed in the current work has been designed for long-term data collection of PV system parameters. Fig. 1 displays schematic diagram for essential parts ...

A novel wireless ExG sensor tag with a multi-channel physiological signals acquisition (PSA) system is presented. The presented system, optimized for power efficiency, ...

The battery management system (BMS) is a system that monitors and controls the battery, feeds back the collected battery information to users in real-time, and adjusts ...

In EVs, a common power system architecture involves high-voltage battery pack connected to a three-phase traction inverter, and a battery charger, as illustrated in Fig 17, high ...

That"s why we need the parameters of motor and battery to improve the performance of electric vehicles. ... Benghanem M (2009) Measurement of meteorological data ...

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