

Vibration detection method for energy storage charging pile

Can battery energy storage technology be applied to EV charging piles?

In this paper, the battery energy storage technology is applied to the traditional EV (electric vehicle) charging piles to build a new EV charging pile with integrated charging, discharging, and storage; Multisim software is used to build an EV charging model in order to simulate the charge control guidance module.

How does a charging pile work?

The charging pile determines whether the power supply interface is fully connected with the charging pile by detecting the voltage of the detection point. Multisim software was used to build an EV charging model, and the process of output and detection of control guidance signal were simulated and verified.

Are fault detection methods still used in charging piles?

However, traditional fault detection methods are still used in charging piles, which makes the detection efficiency low. This paper proposes an error detection procedure of charging pile founded on ELM method.

What is the function of the control device of energy storage charging pile?

The main function of the control device of the energy storage charging pile is to facilitate the user to charge the electric vehicle and to charge the energy storage battery as far as possible when the electricity price is at the valley period. In this section, the energy storage charging pile device is designed as a whole.

How effective is the energy storage charging pile?

The energy storage charging pile achieved energy storage benefits through charging during off-peak periods and discharging during peak periods, with benefits ranging from 699.94 to 2284.23 yuan (see Table 6), which verifies the effectiveness of the method described in this paper.

What data is collected by a charging pile?

The data collected by the charging pile mainly include the ambient temperature and humidity, GPS information of the location of the charging pile, charging voltage and current, user information, vehicle battery information, and driving conditions. The network layer is the Internet, the mobile Internet, and the Internet of Things.

[7] Hong H, Su Y, Zheng P et al 2021 A SVM-based detection method for electricity stealing behavior of charging pile [J] Procedia Computer Science 183 295-302 ...

After the enterprise has passed the benefit correction, the profit of this enterprise is correspondingly smaller.

The invention relates to the technical field of charging pile detection methods, in particular to a detection

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method of a new energy high-power direct-current charging pile, which...

This paper firstly introduces the testing purpose and development history of charging pile ...

2.1 Wavelet transform. Standard 1D analysis, like time-domain or frequency-domain analysis, often cannot capture the true pattern of damage circumstances, particularly ...

This article systematically expounds the three basic algorithms of DC electric energy measurement, and uses comparative analysis method, interdisciplinary method and ...

The MHIHHO algorithm optimizes the charging pile's discharge power and discharge time, as well as the energy storage's charging and discharging rates and times, to ...

With the pervasiveness of electric vehicles and an increased demand for fast charging, stationary high-power fast-charging is becoming more widespread, especially for the purpose of serving pure electric buses (PEBs) ...

The MHIHHO algorithm optimizes the charging pile's discharge power and ...

Therefore, a DC charging pile charging module fault state detection method ...

This paper proposes an error detection procedure of charging pile founded on ELM method. Different from the traditional charging pile fault detection model, this method constructs data ...

This paper proposes a charging pile historical maintenance data based on cloud storage, as ...

Therefore, a DC charging pile charging module fault state detection method based on the minimum fourth-order moment adaptive filtering algorithm is proposed in order to ...

This article systematically expounds the three basic algorithms of DC electric ...

The simulation results of this paper show that: (1) Enough output power can ...

To fill the research gap in this important topic, a horizontal shell-and-tube six-fin latent heat thermal energy storage unit is investigated in this study, and the effects of mechanical ...

3 Development of Charging Pile Energy Storage System 3.1 Movable Energy Storage Charging System At present, fixed charging pile facilities are widely used in China, although there are ...

This paper firstly introduces the testing purpose and development history of charging pile testing devices, secondly summarizes the main functions and working principles of existing charging ...

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Vehicle-to-Grid (V2G) is a technology that enables electric vehicles to use smart charging methods to harness low-cost and renewable energy when it is available, and obtain ...

This paper proposes a charging pile historical maintenance data based on cloud storage, as well as charging pile brand, model, environmental temperature and humidity indexes. The ...

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