

Monitoring the voltage changes of energy storage charging piles

How far is a charging pile from a monitoring center?

The farthest charging piles from the monitoring center in the target area were set as the charging piles in abnormal running, and their distances were 100 m, 120 m, 140 m, and 160 m respectively. The design platform was used to monitor the charging pile, and the test results of the platform monitoring range were obtained, as shown in Fig. 8.

What is energy storage charging pile equipment?

Design of Energy Storage Charging Pile Equipment 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.

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.

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.

What is a charging pile monitoring platform?

The monitoring platform is designed to provide auxiliary tools for the management and maintenance of charging piles, to ensure their safe operation. Since the existing monitoring platform mainly applies blockchain technology. Generally, the charging pile provides two charging methods: conventional charging and fast charging.

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.

How to ensure the safety of charging pile including the protection of people, electric vehicles and batteries, has become the focus of social attention. This paper proposes a real-time safety...

The MHIHHO algorithm optimizes the charging pile's discharge power and discharge time, as well as the

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energy storage"s charging and discharging rates and times, to ...

The simulation results of this paper show that: (1) Enough output power can be provided to meet the design and use requirements of the energy-storage charging pile; (2) the control guidance circuit can meet the requirements of the charging pile; (3) during the switching process of charging pile connection state, the voltage state changes smoothly. It can provide a new method and ...

In this paper, an online platform for monitoring charging pile operation safety was constructed from three aspects: hardware, database, and software functions using big data and related technologies.

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The method proposed in this paper can make use of the real-time state parameters measured by the measuring equipment of the charging pile itself to judge its fault conditions, and provide support for the next maintenance work and troubleshooting work of the charging pile.

The power supply and distribution system, charging system, monitoring system, energy storage system, and photovoltaic power generation system are the five essential components of the PV and storage integrated fast charging stations. The battery for energy storage, DC charging piles, and PV comprise its three main components. These three parts ...

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Are you curious about DC charging piles and their impact on electric vehicles (EVs)? This article aims to provide simple and valuable information about DC charging piles, their advantages and drawbacks, and the significance of a reliable DC charging system. Whether you are an EV owner or considering purchasing one, understanding the essentials of DC [...]

In this study, an evaluation approach for a photovoltaic (PV) and storage-integrated fast charging station is established.

Therefore, it is increasingly important to continuously explore the full-life-cycle management of charging piles in operation through the construction of a charging pile data monitoring ...

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Statistics show that the 2017 new-energy vehicle ownership, public charging pile number, car pile ratio compared with before 2012 decreased, but the rate of construction of charging piles is not keeping up with the manufacture of new-energy vehicles. China has built 55.7% of the world's new-energy charging piles, but the shortage of public charging resources ...

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 maximize the charging pile's revenue and minimize the user's charging costs.

In this article, a real-time fault prediction method combining cost-sensitive logistic regression (CS-LR) and cost-sensitive support vector machine classification (CS-SVM) is proposed. CS-LR is first used to classify the fault data of smart charging piles, then the CS-SVM is adopted to predict the faults based on the classified data.

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