Blade battery intelligent temperature control system

This article designs an intelligent air control system and regard AT89C52 MCU as control core. We can set the ideal temperature and ideal humidity through the keys.

Figure 1. Architecture of control system for intellectual bladeless fan. The working principle comes here as follows: First, the system detects the ambient temperature by the temperature collector, and continues to perform temperature acquisition until the ambient temperature is greater than the preset temperature value; the system then uses the position and the ...

DOI: 10.1016/j.applthermaleng.2023.121577 Corpus ID: 262052814; Intelligent temperature control framework of Lithium-ion battery for electric vehicles @article{Zhou2023IntelligentTC, title={Intelligent temperature control framework of Lithium-ion battery for electric vehicles}, author={Lin Zhou and Akhil Garg and Wei Li and Liang Gao}, ...

Comparison of Blade Battery with traditional Lithium-ion Battery This code defines the voltage and current data points for both Tesla and Blade batteries.

Core features at the heart of the e-Platform 3.0 are the Blade Battery, the world"s first mass-produced 8-in-1 electric powertrain and the highly efficient heat pump. What makes BYD"s e-platform 3.0 special? The innovative 8-in-1 electric powertrain integrates the Vehicle Control Unit, as well as the Battery Management System, Power Distribution Unit, Drive ...

In addition to solving the issue of endurance - once a previous limiter to the development of traditional lithium iron phosphate batteries - the Blade Battery can be ...

During the Nail Penetration Test, the Blade Battery gave off no smoke or fire and the surface temperature only reached 30 to 60 degrees Celsius. It also withstood other extreme test conditions, such as being crushed, bent, heated in an oven to 300 degrees Celsius and overloaded by 260%. None of these resulted in a fire or explosion, making BYD Blade ...

The construction of an intelligent temperature control system based on the STM32 single-chip microcomputer was studied, and the fuzzy PID (Proportional Integral Derivative) control strategy was applied to temperature control, thus realizing the fuzzypid control algorithm. : Temperature is a very common and important parameter in manufacturing processes and scientific research ...

Following an exhaustive development programme, the Blade Battery returned truly impressive, class-leading test results; a stringent nail-penetration test confirmed the Blade ...

LionRock Blade Power and Battery. 3Tech launched the LionRock Blade Power series product DBP3000 in

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fall 2020 which is specifically designed for terminal communication site. As the most basic unit in the telecom power solution series, DBP3000 can use in various scenarios and also suitable for MBB in 5G era. LionRock DBP3000 is an outdoor design AC/DC rectifier rated ...

On June 4, 2020, over a hundred members of the media and industry experts were given on-site access to the FinDreams Battery Factory in Chongqing that produces the BYD Blade Battery. This is the first factory tour that BYD has conducted since it debuted the Blade Battery on March 29, presenting the factory"s intelligent manufacturing capabilities.

During a nail-penetration ballistics test, the Blade battery"s surface temperature remained with a 30°C-to-60°C range without any smoke or fire. And the battery successfully sustained repeated 80-Hz vibration attenuation, Chen said. According to BYD, the Blade battery exceeds 1.2 million km after 3,000 charge/discharge cycles. The new Tang ...

However, traditional battery temperature control strategies have difficulty balancing temperature control accuracy and system response speed. Thus, an intelligent temperature control framework employing two control strategies: Fuzzy Logic Control (FLC) and Reinforcement Learning Control (RLC), is proposed in this paper. Meanwhile, a single ...

However, the temperature control of the battery can be further improved. List of global electric vehicle sales in January 2021[4] The structure of lead-acid battery [8]

BYD releases the BYD DiSus Intelligent Body Control System, dedicated to new energy vehicles (NEV) with a lineup of DiSus-C, DiSus-A, and DiSus-P.

Temperature control is the key problem in the design and manufacture of electric blankets. In order to solve current technological failure to real-time control of the temperature of electric ...

The intelligent temperature control system is divided into four parts: monitor,heater,controlled process and feedback loop. Among them,the temperature detection circuit is designed with the conductivity of water by sensor detection. The optical coupler MOC3041 is used to implement the power control circuit,whose control object is 1 kW electric heater with the 220 V alternating ...

In this work, a decentralized but synchronized real-world system for smart battery management was designed by using a general controller with cloud computing capability, four charge regulators, and a set of sensorized battery monitors with networking and Bluetooth capabilities. Currently, for real-world applications, battery management systems (BMSs) can ...

SELF-ADAPTING INTELLIGENT BATTERY THERMAL MANAGEMENT SYSTEM VIA ARTIFICIAL NEURAL NETWORK BASED MODEL PREDICTIVE CONTROL Yuanzhi Liu* The University of Texas

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The control effect of the fuzzy-PID dual-layer coordinated controller is numerically evaluated, and the results show that it can maintain the average temperature of the Li-ion battery pack in the ...

Based on an overview of intelligent algorithms and control strategies for battery packs, reference [7] points out future development directions of battery management, such as developing a digital ...

In both academia and industry contexts, static BTMS is traditionally employed to control battery temperature within an optimal range [21]. To achieve superior temperature control performance, researchers have focused on enhancing the heat transfer efficiency of BTMS by appropriately selecting the operating medium. Based on the form of the operating ...

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Eliminate uneven room temperatures: Flair Smart Vents work with central systems to bring precise airflow and intelligent control for heating/cooling your smart home. Battery powered but also has the option to ...

Integration is a key enabler of the BYD e-Platform 3.0, which was launched in September 2021. Core features at the heart of the e-Platform 3.0 are the Blade Battery, the world"s first mass-produced 8-in-1 electric powertrain ...

In some of the Blade pack designs the control system is on the same plane and at the front of the cells. In other designs (left) the control system has been moved above the front of the pack. Most vehicles have some form of tunnel section as it works structurally with the front longitudinals and bulkhead. Hence it makes sense to lift the ...

This review paper provides a comprehensive overview of blade battery technology, covering its design, structure, working principles, advantages, challenges, and ...

BYD SEAL comes standard with a wide temperature range high-efficiency heat pump system, which allows for efficient regulation of the battery pack temperature via direct cooling and direct heating of the refrigerant, ...

Since BYD announced the blade battery for the first time at the 100-person meeting for electric vehicles in January 2020 and the blade battery launch conference on March 29, there has been more discussion about blade batteries in the industry.. There are two main opinions here: One is that the blade battery has no new ideas, is similar to the CTP of the ...

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Technical Data Drive Weights and capacities Drive Front-Wheel Drive (FWD) Number of seats 5 Energy YD lade attery Kerb weight(kg) 1658 attery (kWh) 60,48 Gross vehicle weight (kg) 2068 Max. power(kW/pk) 150 / 204 Max. front axle load (kg) 1039 Max. torque (Nm) 310 Max. rear axle load (kg) 1090 A -charging (kW) 11 D -charging (kW) 88

The reason why blade battery is used is that it has its advantages in technology. Firstly, the blade battery greatly improves the volume utilization, and finally achieve the design goal of ...

The electronic battery sensor (EBS) measures the current, voltage and temperature of 12V lead-acid batteries with great precision. The battery state detection algorithm (BSD) integrated into the EBS calculates the current and ...

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Energies 2021, 14, 5989 4 of 82 and efficiency of BEVs. In the light of the variety of approaches, we specify those battery systems as intelligent that incorporate: oadditional sensors or ...

The heat generated during battery charging and discharging induces rapid temperature rise, potentially affecting battery performance and safety. Coolant flow rate control has been used to regulate battery temperature to address this. However, traditional battery temperature control strategies have difficulty balancing temperature control accuracy and system response speed.