

Battery motor and electronic control for new energy vehicles

What is the most important component of a new energy vehicle?

Policies and ethics The "Three-electricity" system (battery system, electric drive system and electric control system) is the most important component of a new energy vehicle. Compared with the battery system, which determines the driving distance of the new energy vehicle,...

What is a battery electric vehicle?

The electric vehicle has a variety of powertrain architectures, the connections between the motor and the transmission or other drive mechanisms are diverse. The common battery electric vehicle structure and its powertrain system are shown in Fig. 3.1.

What are new energy electric vehicles?

New energy electric vehicles are driven by pure electricity and integrate advanced technologies such as vehicle drive control and vehicle networking. They are s

What is the core technology of new energy vehicles?

Abstract: The core technology of new energy vehicles is the "EIC" technology, and the electric control system is one of the key technologies for the development of electric vehicles.

What are the key technologies of drive systems of new energy vehicles?

Overall architecture and key technologies of drive systems of new energy vehicles. 3.3.1. Drive motor design technology As an electrical-mechanical energy conversion device, the drive motor performance is directly related to the dynamic performance of the vehicle.

What is a battery EV (BEV) powertrain?

Battery EV (BEV) powertrain generally includes the motor, power electronics control system, and reducer or transmission. Its configuration depends mainly on the layout of the electric drive system inside the vehicle.

The challenges and influences of Road Vehicles Functional Safety (ISO 26262) standard for new energy automobile industry are analyzed. The application of ISO 26262 for new energy ...

Abstract: To control the pore size of anode in thin film solid oxide fuel cells, a simple polymer injection method was introduced to replace conventional anode functional layer method in this ...

As energy shortage, climate change, and pollutant emissions have posed significant challenges to the sustainable development of the world automotive industry, the ...

6 ???#0183; With an increase in the energy consumption of electric vehicle batteries, there is a noticeable

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increase in the average values of battery voltages. For cars manufactured in ...

Promoting the power density, system efficiency, and control performance of the motor drive system, enhancing the energy density, safety, and durability of the power battery ...

An EV needs to implement temperature controls for three new systems: the high-voltage battery pack, the traction motors and the traction motor inverter electronic control ...

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The "Three-electricity" system (battery system, electric drive system and electric control system) is the most important component of a new energy vehicle. Compared with the ...

This paper presents a review on the recent research and technical progress of electric motor systems and electric powertrains for new energy vehicles.

The two-speed automated manual transmission for battery electric vehicles (2ETS for short) adopts parallel shaft structure, covering gear drive system, differential system, electronic ...

BYD is a pioneer in combining IC engines with electric motors to enable its vehicles to freely and intelligently switch between pure electric and hybrid modes. This technology provides vehicles ...

The motor consists of three parts: stator, rotor, and housing. The key points of the motor technology are stator and rotor. The rotor is the main drive motor of the New Energy ...

New energy automotive motors and electronic control systems are used as a substitute for traditional engine (gearbox) functions, and their performance directly determines ...

Lastly, the Electronic Control System is the collective term for the entire three-power system, encompassing the overall vehicle control system, motor control system, and ...

This paper presents a review on the recent research and technical progress of electric motor systems and electric powertrains for new energy vehicles. Through the analysis and comparison of direct current motor, ...

In Fig. 3.1, D is the differential mechanism, FG is the reducer with fixed gear ratio, GB is the transmission, M is the motor, and VCU is the vehicle control unit. The HEV powertrain is ...

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