New energy battery guard plate structure diagram

Where is the battery pack box arranged?

The battery pack box of the target vehicle is arranged under the chassis,below the floor of the passenger compartment,disassembled from the electric vehicle. The appearance structure of the box is shown in Fig. 3. After removing the upper cover,the battery pack module is presented,and the structure is shown in Fig. 4.

Why is battery pack box structure important?

Abstract. The power battery is the only source of power for battery electric vehicles,and the safetyof the battery pack box structure provides an important guarantee for the safe driving of battery electric vehicles. The battery pack box structure shall be of good shock resistance,impact resistance,and durability.

What is a power battery pack box?

The power battery pack box is the core component of the BEV. The power battery pack provides energy for the whole vehicle,and the battery module is protected by the outer casing. The battery pack is generally fixed at the bottom of the car,below the passenger compartment,by means of bolt connections.

How does a rigid column affect a battery pack box?

In the analysis of the vehicle side impact test,the rigid column invades the electric vehicle,which deforms the sill beamand the side of the battery pack box. Figure 10 shows the distribution of the stress nephogram of the battery pack box during the collision.

How does a battery pack work?

The power battery pack of the target vehicle is connected with the structural bolts of the vehicle chassis through the lifting lugs welded on the lower box of the battery pack. The battery pack box of the target vehicle is arranged under the chassis, below the floor of the passenger compartment, disassembled from the electric vehicle.

What is the stress nephogram of a battery pack box?

Figure 10 shows the distribution of the stress nephogram of the battery pack box during the collision. The maximum stress value of the box is 335.5 MPa, and the maximum stress value of the lifting lug closest to the collision rigid column is 413.4 MPa.

Air Cooling Structure of Battery Pack for New Energy Vehicles . JiaHua Wu . Department of Power Engineering, School of energy power and mechanical engineering, Baoding, Hebei, 071000 . Keywords: Air Cooling, Battery Pack, New Energy Vehicles, diversion plate. Abstract: The utility model discloses an air cooling structure for a battery pack of a ...

Structure diagram of the Battery Energy Storage System (BESS), as shown in Figure 2, consists of three main

systems: the power conversion system (PCS), energy storage system and the ...

A battery"s optimal working temperature is 25 o C. In general, the battery performs best when the electrolyte temperature is kept at a reasonable level [55].Temperature has a significant impact ...

The invention relates to the technical field of new energy battery guard plates, and discloses a cutting device of a new energy battery guard plate and a control method thereof, wherein the cutting device comprises: cutting the box; the two cutting knives are arranged above the cutting box; and the cutting assembly is connected with the two cutting knives.

Download scientific diagram | (a) Schematic of liquid cooling system: Module structure, Single battery and Cold-plate ("Reprinted from Energy Conversion and Management, 126, ...

Based on the simulation, the battery pack structure is improved, and suitable materials are determined. Then the collision resistance of the optimized battery pack is verified, and the safety...

The utility model discloses a novel new energy automobile battery protection device, relating to the technical field of protection devices, which comprises a bearing box and a buffer box, battery box, vertical fastener and horizontal fastener, the bearing box is hollow structure, the baffle-box is installed inside the bearing box, the battery box is installed inside the baffle-box, the utility ...

The cooling methods for lithium-ion power batteries mainly include air cooling [5, 6], liquid cooling [7, 8], phase change materials (PCM) [9], and heat pipe cooling [10, 11].Currently, the design of thermal management systems for flying cars or electric vertical take-off and landing (eVTOL) is still in its early stages.

Bonn, Germany (6 February, 2023) - Kautex Textron GmbH & Co. KG (Kautex), a Textron Inc. (NYSE: TXT) company, announced it has received the first order from an automotive OEM for a thermoplastic composite underbody battery ...

An energy performance comparison is conducted between the use of a lithium-ion battery (Automotive Energy Supply Corporation, Japan) and the UltraBattery (Furukawa Battery ...

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