

# Design and implementation of Li batteries instant with active charge equalization system

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## ABSTRACT

Nowadays people are always pays a lot of attention to the Eco-awareness. The traditional fuel vehicles cause air pollution, noise, brought about global warming, greenhouse effect and other the environmental issue. So the cars which use electric energy with environmentally friendly, has become a lot of auto industry in many countries ' development common consciousness. The Single cell voltage and capacity are limited, therefore is barely provided to supply power to electric cars. So in some situations, we will connect many cells in series, but each series of cell still exist balanced issue. Since the battery pack during charging and discharging of each star battery is not the same, which reduces the battery life. Therefore the battery pack charge equalization mechanism needed to maintain equalization battery power. This study used the relationship between electric vehicles motors and battery power-supply, and different from users command of the electric vehicles. To bring up the newest method of charge equalization. To divide up into three form below. 1. Motor model: When the vehicle is running, the battery supplies power to the motor and the discharge of the battery to give charge equalization, to preserve battery charge in the discharge prone to uneven, prevention of lower battery life. 2. Generator model: when the motor operate in generator and produce power, the power generated by the motor to recharge the battery pack, and the effective allocation of their power to the battery Provide charge for the equalization the battery SOC. 3. Idle model: When the motor stops running. Star the equalization of charge battery pack to achieve charge equalization in all the driving situations. To effectively improve the overall performance of the battery pack. This paper put the new method of instant active charge balance. Established by the experimental platform, validation series battery with charge equalization, and no charge balance series battery. After the experiment, we finding showed the instant active charge equalization, can effectively enhance the battery life of series battery.

Keywords : Electric vehicle、Charge equalization、Battery life、Lithium iron phosphate battery

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