

Study on Distributed Control System of Fuel Cell Electrical Vehicle

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ABSTRACT

This paper introduces the tasks and constitution of distributed control system in fuel cell electrical vehicle (FCEV). The function of each ECUs is analyzed. Based on optical fiber CAN, the distributed communication network is designed in vehicle. Using the active star coupler, the optical fiber CAN with star topology is put forward. The active star coupler is designed based on CPLD, and it has CANH and CANL communication interface. The transmission protocol of the distributed control system is introduced briefly. The road experiment of the vehicle shows the design of distributed control system is reasonable and the effect of control is satisfied also.

Keywords: fuel cell electrical vehicle , distributed , control system , optical fiber CAN , active star coupler.