바이모달트램용 LPB팩에 적용될 Battery Management System 개발

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Development of BMS applying to LPB Pack in Bimodal Tram

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Abstract : Bimodal Tram developed by KRRI is driven by a series Hybrid propulsion system which has both the CNG engine, generator and LPB(Lithium Polymer Battery) pack. It has three driving modes; Hybrid mode, Engine mode and Battery mode. Even in case of Battery mode, LPB pack to get enough power to drive the vehicle only by itself onsists of 168 LPB cells(80Ah per lcell), 650V. It is important thing to manage LPB pack in a right way, which will extend the lifetime of LPB cells and operate in the hybrid mode effectively. This paper has shown the development of battery management system(12 BMS, 1 BMS per 14cells) to manage LPB pack which is connected with CAN(Controller Area Network) each other and measure the voltage, current, temperature and also control the cooling fan inside of LPB pack. Using the measured data, BMS can show the SOC(State of Charge), SOH(State of Health) and other status of LPB pack including of the cell balancing.

Key Words : Bimodal Tram, LPB, BMS, SOC, SOH, cell balancing