

Solar Operated Battery Management System

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Abstract: *This paper focuses on the hardware aspects of battery management systems (BMS) for electric vehicle and stationary applications. The purpose is giving an overview on existing concepts in state-of-the-art systems and enabling the reader to estimate what has to be considered when designing a BMS for a given application. After a short analysis of general requirements, several possible topologies for battery packs and their consequences for the BMS' complexity are examined. Four battery packs that were taken from commercially available electric vehicles are shown as examples. Later, implementation aspects regarding measurement of needed physical variables (voltage, current, temperature, etc.) are discussed, as well as balancing issues and strategies. Finally, safety considerations and reliability aspects are investigated..*

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