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Internet of Things Based Battery Management System

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Abstract : The battery management system is an essential package/system which ensures optimum performance and safety of a battery by monitoring the key essential parameters of the battery like the voltage, current, temperature, state of charge, state of health during charging and discharging. This can be accomplished using outputs of various sensors employed to serve the purpose. The increasing demand for electricity generation from renewable energy sources requires proper storage and hence a proper monitoring system as well. A battery management system is required in wide applications ranging from renewable energy storage systems, off-grid solar PV applications to electric vehicles. The aim of this paper is to study the parameters used in monitoring various battery operating conditions and proposes the usage of the internet of things (IoT) to implement a reliable battery management system.

Keywords : electric vehicles, internet of things, sensors, state of charge, state of health
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