

Battery monitoring for stand-alone photovoltaic system

Abstract

This project deals with the design of a system to monitor the performance of Photovoltaic (PV) battery for Stand-alone system. This monitoring system is developed by using a Peripheral Interface Controller (PIC) a microcontroller as a control unit. The data measurement will be sent to a personal computer (PC) by Universal Asynchronous Receiver/Transmitter (UART) device and save in database file that can be visualized in table by Microsoft Excel software. The battery monitoring will measure and displayed on the LCD (Liquid Crystal Display) the several parameters of the PV system such as voltage, current, solar irradiance, ambient and cell temperature of the Stand-alone PV system. The State of Charge (SOC), Depth of Discharge (DOD) and ampere-hour (AH) of the battery have been analysed to prove the battery performance of the Stand-alone PV system.