

Design and Development of Hybrid Charging Topology

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Abstract: Implementation of this system is to ensure continuous output current to load utilizing both Photovoltaic (PV) energy and AC Grid. Utility interfacing PWM converter designed here to operate by both solar energy and storage batteries that highly satisfies the necessity in rural areas where National Grids are hardly available and power cut problem reduces the effectiveness of system. Solar energy gets priority here to charge storage battery rather than AC source that may save hundreds of megawatts power every day. To extend the battery lifetime and keep system components hazard-free, it includes exact battery-level sensing, charging-current controlling by microcontroller unit (MCU) charge to congregate maximum PV energy from AC Solar Modules. Investigation on improvement of power- interfacing control and optimization of overall system operation assent to intend usage recommendation in this exposition

Keywords: Renewable Energy, Hybrid charging topology, Solar Panel, Battery

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