

ABSTRACT

The hybrid-input DC micro grid system combines renewable energy sources like Photovoltaic (PV), wind, etc. and AC supply. The Wireless Power Transfer (WPT) system can be implemented for various applications, like Electric vehicles and energy management systems. Solar Energy and AC supply energy are connected through DC micro grid, and the battery is connected to the converter with the load. The main objective is identified as a topology with better performance for voltage regulation. Hybrid Energy Sources (HES) provide better reliability and flexibility in power generation systems. A smaller number of switches were connected to reduce switching loss using this converter. The front-end stage performs the AC-to-DC conversion and Power Factor Correction (PFC), and the cascaded stage regulates the system output voltage by using a DC-to-DC converter with a high-frequency transformer. The front-end stage can achieve relatively high power density and also optimize the system efficiency. The performance evaluation of the Hybrid Energy Source are carried out using through the MATLAB/Simulation software platform to implement hardware prototype model are modified in the system, and the results are presented.