Grid-connected solar water pumping system

This study delves into the optimization of grid-connected solar water pumps by introducing a reduced topology, aiming to enhance both efficiency and cost-effectiveness.

One of the biggest problems with grid-connected PV (GCPV) systems is getting the necessary real and reactive power that is, electricity with the predicted power factor into the grid.

This work presents a grid-interactive solar water pumping system based on the PMSM drive. Both the PV array and the utility grid exchange feeding the motor depend on the irradiance ...

This paper proposes a grid associated photovoltaic fed brushless DC motor driven water pumping system with improved power quality of the grid by using a Fuzzy L

The methodology adopted for this research underlines the technical and economic feasibility of solar-powered water pumping systems, taking into account that these are fitted to site ...

To increase water delivery over a day, grid-connected SWPS is developed in this article utilizing the diode bridge as grid-interface converter. The presented system consists of boost ...

In this context, an Intelligent Solar Water Pump with Grid Backup provides a reliable and energy-efficient approach. The system intelligently monitors solar output, grid availability, and load demand, and ...

In this study, the effectiveness of a solar-PV and grid-integrated water pumping system is compared to that of a traditional PI and an intelligent fuzzy logic controller for PQ augmentation.

grid-connected solar water pumping system (SWPS) uses solar power to pump water while simultaneously drawing power from the grid when necessary. These systems can benefit farmers in ...

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