

THE SOLAR POWERED UNINTERRUPTED POWER SUPPLY SYSTEM

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ABSTRACT

This paper deals with the research and the development of the solar powered UPS system in India's market as a main source of energy over the conventional AC grid. The design consists of a solar charge controller, inverter circuit, solar panel and 2-channel Relay module automatic switching between the Solar and the conventional grid. It also shows how beneficial the solar powered UPS system over the conventional UPS systems available in the market. It also shows the advantages of the Solar UPS system to the stand-alone system. In this project, the solar panel converts the solar energy to the electrical energy. The DC output of the solar panel is fed to the charge controller which helps in charging the 12V battery and parallelly connects to the inverter circuit where the DC is converted to AC and a step-up transformer is used to increase the level of the voltage from 12V AC to 230V AC. Relay logic is designed for automatic switching between the Solar and the AC grid in case of the failure of any one of the sources. When both the systems fail, the stored charge from the battery drives the load.

KEYWORDS: *Solar Charge Controller, Half Bridge Inverter, Automatic Switching*

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