

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202141010711 A

(19) INDIA

(22) Date of filing of Application :14/03/2021

(43) Publication Date : 02/04/2021

(54) Title of the invention : An IoT Based Remote Solar Monitoring System Design

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(57) Abstract :

The rapid development of technologies, cost of renewable energy equipment is reducing worldwide and encouraging Solar Power Plants installations in large quantity. The Solar Power Plants generates the Solar Energy, converts sun light into electricity by Photovoltaic cells, mirrors, and lenses. The commercial way of producing the energy from the sun is the viable way of renewable energy. The large scale of the solar power plants are installing in the locations which are not accessible to monitor everyday. The remote real time solar monitoring system is required for each individual solar panel in the solar energy system to know the performance in the form of power output levels. The Internet of Things (IoT) is the well developed technology which can integrate the real time environment with the computer for monitoring remotely. Internet of Things allows the solar system objects to be sensed and monitored remotely with the web interface. As the solar power plant systems are located in the remote areas in larger size required to be monitor remotely to know the performance of the each panel in generation of the solar energy. The present invention disclosed herein is an IoT Based Remote Solar Monitoring System Design comprising of: Solar Panel (201); Rectification (202); Battery (203); Current Sensor (204); Voltage Sensor (205); Microcontroller (206); Motor (207); Buzzer (208); LDR 1 (209); LDR 2 (210); WIFI Module (211); Hotspot (212); Server (213); Cloud (214); Dashboard (215); used to monitor the Solar power system remotely using Internet of Things. The present invention disclosed herein is a cost effective method based on IoT to monitor the performance of solar power system remotely. The present invention disclosed herein shows the system efficiency of 96% enables the efficient use of renewable energy.

No. of Pages : 14 No. of Claims : 10