

IoT Based Solar Power Monitoring System

Mr. Pravin M. Badole¹, Mr. Bhushan D. Giri², Mr. Akshay R. Zarodiya³, Mr. Nikesh Gajbhiye⁴,

Ms. Prachi F. Jambhulkar⁵, Mr. Shubham A. Harane⁶

Students, Department of Electrical Engineering^{1,2,3,4,5}

Assistant Professor, Department of Electrical Engineering⁶

J D College of Engineering and Management, Nagpur, Maharashtra, India

Abstract: As we know in the present time solar energy is at its booming stage compared to other sources, as it's the perfect alternative for all conventional sources required for electrical energy generation. This paper proposes a solar power monitoring system by the IoT. By using the Internet of things technology for supervision the solar power generation can greatly enhance the performance, monitoring and maintenance of the plant. With gradually increasing the technologies and the cost of renewable energy sources are going down globally encouraging the solar power plant installation. In this project the output of the solar panels is depends upon the radiation of heat. The project is based on the implementation of new cost-effective methodology based on IOT to remotely monitoring a solar plant for performance evaluation. By incorporating the IOT technology the data received from the panels and appliance are sending to the cloud from through internet for the future use as well the remote user can monitor the parameters of the connected devices.

Keywords: Battery, Blink server, Solar panel, Current sensor, EPS32 Devkit, LED display, PWM, Temperature sensor.

REFERENCES

- [1]. R.L.R. LokeshBabu, D Rambabu, A. Rajesh Naidu, R. D. Prasad and P. Gopi Krishna 2018 IoTEnabled Solar Power Monitoring System Int. J. Eng. & Tech. 7 p 526
- [2]. Subhasri. G and Jeyalakshmi. C 2018 A Study of IoT based Solar Panel Tracking System Adv. In Comp. Sci. Tech. 11 p. 537.
- [3]. Balbheem Nadpurohit, Roopa Kulkarni, Kadappa Matager, Nagaraj Devar, Rahul Karnawadi and Edmund Carvalho 2017 IoT Enabled Smart Solar PV System Int. J. Inno. Res. in Comp. and Comm. Eng. 5 p 11324
- [4]. Shruti Sawardekar, RenukaPawar, "Data Security Approach in IoT Environment", 10th International Conference on Computing, Communication and Networking Technologies (ICCCNT), 2019, pp. 1-7.
- [5]. Feng Shu, Hanhua Lu, Yin Ding, "Novel Modbus Adaptation Method for IoT Gateway", IEEE 3rd Information Technology, Networking, Electronic and Automation control conference, 2019, pp. 632-637.
- [6]. Kabalci, Ersan, Gorgun A. and Kabalci Y., 2013. "Design and implementation of a renewable energy monitoring system." Power Engineering, Energy and Electrical Drives (POWERENG), Fourth International Conference on. IEEE, 2013. .
- [7]. Mayamiko N., Zennaro M. and Bagula A., 2011. "SM 2: Solar monitoring system in Malawi." Kaleidoscope: The Fully Networked Human?-Innovations for Future Networks and Services (K-2011), Proceedings of ITU. IEEE, 2011.
- [8]. SeenaNaik. K and Sudarshan. E 2019 Smart healthcare monitoring system using raspberry Pi on IoT platform ARPN J. Eng. and Appl. Sci. 14, p 4872
- [9]. Sadik Arslan, Orhan Dagdeviren, Geylani Kardas, "An IoT LDR bulb Application with Android Things Operating System for Smart Cities", Innovations in Intelligent Systems and Applications Conference (ASYU), 2019, pp.1-5.