

ABSTRACT

A back up power supply is needed when blackout happens. Uninterruptible Power Supply (UPS) is a kind of back up power supply which will directly supply electric power to electronic devices when the main power supply is off . But the parameters on the UPS aren't monitored in real-time basis. This final project aims to create a monitoring system of UPS based on Internet of Things.

The monitoring system will be designed by using voltage sensors, current sensor, and microcontroller with built-in wifi. The sensors are used to monitor the state of main power supply, measure current and voltage of load and battery. The measured data will be processed by the microcontroller to be uploaded to the cloud by using an internet connection.

With this monitoring system, UPS users can find out the State of Charge of battery, state of main power supply, and power consumption the load uses. This monitoring system is uploaded to the cloud and is displayed in the user interface at Antares to make it accessible by others. Based on the experiment, the results were quite good with less than 10% error. The monitored data is successfully sent to Antares with a delay of 20 seconds.

Keywords: *Uninterruptible Power Supply, Internet of Things, State of Charge, Cloud, Monitoring*