DESIGNING AND TESTING MOTORBIKE CONDITION MONITORING SYSTEM USING NODEMCU ESP8266 BASED ON ANDROID APPLICATION

Moch Sandi Ramadhana Suhaedi
Electrical Engineering Study Program, Faculty of Information Technology and Electro
Universitas Teknologi Yogyakarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail: sandiramadhana@gmail.com

ABSTRAK

Along with the current development and the increasing need for humans on a system to work in real time to help human work, technology has experienced rapid development. Its application development increases widely in everyday life, covering various areas of life such as data acquisition, monitoring, and others. For the sake of business, someone often forgets to check the condition of his/her motorbike periodically. Thus, a system to monitor the condition of motorbikes in real time to make it easier for owners to know the condition of their motorbikes is required. The system aims to provide information on the condition of motorbikes to owners based on realtime android applications. In the designed system, there were four main aspects that will be informed, i.e. motorbike speed, battery electrical power, engine room temperature conditions, and motor vibration data. The systems embedded on the motorbike were a NodeMCU ESP8266, ACS712 sensor, hall effector sensor, DS18b20 temperature sensor, and vibration sensor. The system has the ability to read conditions and data with a fairly good error rate between the speed sensor error rate, including a 1% speed sensor and a 3.8% current sensor.

Keywords: Speed, vehicle flow, monitoring, NodeMCU ESP8266