ABSTRACT

Manual water tank filling is a form of energy and resource wastage. Therefore, an automatic control system is needed to regulate water tank filling by controlling the water level. This study aims to design and develop an automatic control system for water gallon and water tank filling by monitoring and controlling the water level. The design of this automatic control system uses NodeMCU ESP8266 as the microcontroller. The water level is measured using an HC-SR04 ultrasonic sensor. This system operates by running the water pump to release water. The result of this study shows that for the first HC-SR04 sensor, the pump 1 will automatically turn on when the distance is ≥ 6 cm and will automatically turn off when the distance is ≤ 6 cm. For the second HC-SR04 sensor, pump 2 will automatically turn on for 10 second when the distance is ≤ 3 cm and will automatically turn off when the object distance is ≥ 3 cm. The first HC-SR04 ultrasonic sensor, compared to the standard length measuring device, showed a length measurement error of 1.40%.

Keywords: *Water tank, NodeMCU ESP8266, Water Pump, HC-SR04, Blynk*