ABSTRACT

Water is a natural resource that plays an important role in the life of living things, one of which is for consumption. Water that is good for consumption must comply with the provisions stated in the Decree of the Minister of Health of the Republic of Indonesia No. 492/MENKES/IV/2010, where every component contained in drinking water must be in accordance with the stipulated. But most of the people still get water that does not meet the standard criteria for water quality standards even though the water they get comes from the Refill Drinking Water which should be good for consumption, but the Refill Drinking Water manager is still a human who definitely makes mistakes such as not regularly checking the machine because the water produced still looks clean so they assume the machine they use is still in good condition. Therefore, the authors plan to make a water quality measuring device for Refill Drinking Water managers to easily check the water that will be sold to the public, if the quality of the water produced is not appropriate, the Refill Drinking Water manager can immediately check or repair the machines used. This water quality measurement tool implements IoT and uses NodeMCU as its microcontroller. Water quality measurement uses a DS18B20 temperature sensor, a 4502C pH sensor, a TDS (Total Dissolved Solids) meter sensor, and a Turbidity sensor. The results of the research in the form of a water quality measuring device are expected to be able to provide accurate results in measuring water quality at water depots and can facilitate and help humans to avoid diseases due to poor water quality. Based on the results of the tests carried out such as calibration tests carried out as many as 30 trials for each sensor and it is known that the average percentage value of the pH error that is read is 0.16%, the temperature sensor is 0.22%, the turbidity sensor is 1.22%, and the temperature sensor is 1.22%. TDS of 0.26%. Therefore the value read by the sensor can work optimally. And from the results of measurements carried out using water from the Efan Water Depot, it can be concluded that the water is of good quality in accordance with the statutory requirements.

Keywords: *Water Quality, IoT, Sensors, NodeMCU.*