ABSTRACT

Wastewater produced by the textile industry has the potential to pollute the environment, the large number of hazardous substances contained in textile wastewater requires technological updates in the management of liquid textile waste before it is discharged into the river. Research on the LoRa network-based textile wastewater quality standard monitoring system is designed to monitor wastewater automatically with the Antares platform before the wastewater is discharged into rivers and ditches with monitored parameters including pH, TDS, and color detection connected to the Lynx-32 microcontroller. Parameter measurements were carried out by placing the pH and TDS sensor components in a container containing batik wastewater, and the color sensor at a detection distance of 2 cm. The average test value for pH sensor accuracy was 94% and TDS sensor accuracy was 94% from 25 tests and color sensor 100% from 20 tests for each red, green and blue color. The results of measuring the pH sensor in wastewater show that the degree of alkalinity is 8.15, and the amount of dissolved solids from the TDS sensor is 1440.84 ppm with black waste water color. From 10 times of testing at each stopping point from the starting point to a distance of 3.5km it is known that the average value of the RSSI or LoRa network strength at each point shows a value below -120 dBm.

Keywords: *Textile Waste, Lynx-32, pH Sensors, TDS Sensors, LoRa*