ABSTRACT

The pond is a man-made body of water with a large amount of water. Fish ponds are water storage areas with the aim of maintaining fish. Water quality is an important factor for the fishing industry. Decreased water quality can lead to the emergence of microorganisms that cause disease such as viruses, bacteria, fungi and parasites. This disease has the potential to make fish lose their appetite and interfere with fish health which will eventually lead to death. For this reason, the quality of water in the fishing industry greatly affects the health of fish in fish farming. This study proposes a system to develop measurement of Oxidation Reduction Potential which is monitored in real time based on long range in the fishing industry. In this study, samples of catfish, tilapia and pomfret pond water were used. The results of the ORP sensor test on the sample obtained an error value of 3.33% with an accuracy rate of 96.66%. signal quality from the RSSI test using a distance of 7.5 km obtained an average RSSI test with the "Strong" category because the average RSI is below -120 dBm. The ORP measurement prototype for the fishing industry provides excellent results with the ability to measure ORP for the fishing industry so that it is able to send data to the platform.

Keywords: *fish pond, LoRa, Microcontroller, Oxidation Reduction Potential*