

ABSTRACT

In order to maintain and protect the environment and human health, water quality monitoring is a crucial aspect. The main focus of this research is the development of an accurate, efficient and easy-to-use water pH monitoring device. The pH level is an important parameter in assessing the acidity or basicity of water, which can provide clues about the ecological conditions of an aquatic environment. The sensor is integrated with a microcontroller system that enables data processing and visualization of results. Through a careful calibration process, it is able to provide accurate and consistent pH readings.

Tests were conducted on various types of water samples in ponds containing fish, to test the performance of the device in various conditions. The test results show that this pH monitoring device can provide results in accordance with the expected pH standards, with very good tolerance. With the advantages of compact size, low power consumption, and the potential for wireless connectivity for remote monitoring, this tool has the potential to support water resource management and responsiveness to environmental changes. It is hoped that this innovation can make a positive contribution to the maintenance of aquatic ecosystems and raise awareness of the importance of conserving the aquatic environment. Measurements were made between 06.00 - 18.00 in a fish pond that had an average pH value of 8.67 because there was a problem at 11.00 where the pH sensor board had a problem with the power supply so that the pH sensor board could not turn on properly.

Keywords : IoT, water quality, Ph levels