Design and manufacture of a water pH measurement circuit with computer connection via serial communication port

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Abstract: In this study, we designed and fabricated an electronic circuit for measuring water pH, while integrating a communication system by connecting to a computer via a serial communication port. The context of the project arises from the practical need for water quality monitoring in industrial and environmental sectors. The main objective is to build an effective pH measurement system capable of automatic communication with a computer for data collection. The research methodology includes both theoretical design and practical experimentation. Through this, the project not only addresses the issue of water quality monitoring but also contributes to the development of automated sensor technology.

Keywords: pH measurement circuit, serial communication, automatic measurement system, water quality management, sensor technology