

## ABSTRACT

Respiratory diseases are a very common health problem experienced by people all over the world and therefore attract the attention of various parties. Therefore, a device is needed that can help in the process of monitoring breathing to detect respiratory disorders. Condition the one that is now in the hospital for the respiratory rate measuring device does not yet exist and still calculated manually. In designing a thermistor-based sensor, it is hoped that it can be an alternative to cheaper respiratory sensors.

The equipment used in this tool consists of a thermistor sensor as measuring temperature or temperature, NodeMCU as a microcontroller, MySQL as a microcontroller database, as well as the website as a user interface for users.

The results of the test data with 1-minute sampling get the average value the error is 2.398 % and the accuracy level value is 97.602 %. Monitoring prototype This breathing works based on changes in temperature during exhalation received by the thermistor. Such temperature changes will cause the resistance value of the thermistor changes and affects the magnitude of the voltage passing through it. Voltage changes that occur will be processed before being converted into digital data contained in nodeMCU. The digital data is then forwarded to computer and processed using software so that it can be displayed on the website. The output result of this website is that it can display the identity of the patient, can display a patient's respiratory graph, and can display the multiplicity the frequency of breathing is in the form of numbers. For data collection of respiratory rate will be continuously within a certain time interval.

**Keywords:** termistor, monitor, website.