

ABSTRACT

Respiration rate is an important physiological parameter that helps to provide important information about the patient's health status, especially from the human respiratory system. So it is necessary to measure the human respiratory rate by calculating the number of respiratory frequencies within 1 minute. The respiratory rate meter is a tool used to calculate the respiratory rate by counting the number of breaths for 1 minute. The author makes a tool to detect human respiratory rate by using a sensor that detects the ascend and descend of the chest cavity based on a microcontroller so that the operator can measure the breathing rate more practically and accurately. Component tool contains analog signal conditioning circuit and microcontroller circuit accompanied by display in the form of TFT LCD. The results of measurement data on 10 respondents obtained an average error value, namely the position of the right chest cavity 6.6%, middle chest cavity 7.92%, and left chest cavity 6.85%. This value is still below the error tolerance limit of 10%. It can be concluded that to obtain the best measurement results, the sensor is placed in the position of the right chest cavity.

Keywords : Flex Sensor, Respiration Rate, Breath Per Minute