

ABSTRACT

A thermometer is a medical device used to measure body temperature. To maintain the accuracy of the thermometer measurement results, periodic calibration is required. Calibration is an activity to determine the conventional truth of the value of the indication of measuring instruments and measuring materials by comparing them to traceable measuring standards to national and international standards for units of measure and/or international and certified reference materials. Based on the results of the identification of chronological problems that have been observed, a body thermometer that measures body temperature is needed so that a calibrator is needed to maintain the accuracy of the thermometer. The purpose of this study is to analyze the Temperature Stability and Accuracy of the Body Thermometer Calibrator Based on On-Off Control and Fuzzy Logic Control.

The contribution of this research to the tool will use the development of the Fuzzy Logic control method to produce temperature stability on the Body Thermometer Calibrator (Digital). Thus data will be obtained on which method is more used for making the thermometer calibrator module. The sensor used in this tool is the DS18B20 TO-92 sensor to detect the temperature of the thermometer. The microcontroller IC used is Arduino Uno R3 and the program uses Arduino software. The result of this research is that the On/Off system has the advantage that the time setting temperature is shorter than the fuzzy system. The Fuzzy system is better than the On/Off system so that the Fuzzy system is more suitable for thermometer calibration media

Keywords : Calibration, Thermometer, Calibrator, Fuzzy.