

ABSTRAK

An laboratorium incubator is a tool used to incubate or incubate a breed. Incubators provide optimum temperature conditions for microorganisms to grow. The incubator has a temperature regulator so that the temperature can be adjusted according to the breed to be incarnated. Incubators utilize hot-dry like ovens. The purpose of this study is to conduct testing and analysis into the accuracy of thermocouple sensors with incubator media in laboratory incubator calibrator tools. The main design consists of 8 MAX 6675 modules, 8 Thermocouple type K, Arduino Mega, and SD Card modules. The temperature and not in the incubator device is measured by a Type K thermocouple sensor. Thermocouple sensor numbers 8 channels that serve to measure the temperature at each incubator camber point. The temperature will be stored on the SD card to analyze the data and the data can be processed into the form of a graphic. Benchmarking is done using a data logger temperature tool. This is done to make the design results are under the standards of the comparison tool. After comparing with the comparison tool get the largest error value is 3.98%, at channel T6 temperature 35 °C with ordinary incubator media and the smallest error in ordinary incubator media point T6 temperature 37 °C which is 0.06 % and in fan incubator temperature 35 C has the largest error which is 2.98 % and the smallest error 0.86%.

Keywords: *laboratorium incubator; Thermocouple; Calibration; IOT*