

ABSTRACT

Water bath is a laboratory equipment that contains water or special liquid that can maintain the temperature under certain conditions during the specified time interval. For this reason, calibration is needed so that the temperature in the chamber waterbath is stable or not. calibration is carried out by comparing measuring instruments and measuring materials to be calibrated to traceable standards that are traceable to national and / or international standards.

Based on the results of the identification of the problems mentioned above, the author makes a waterbath calibrator entitled "Waterbath Calibrator (9 channel)" which is very practical, and easy to operate. .This calibration tool uses a K type thermocouple sensor and also the output is displayed to the character LCD to make it easier for users to retrieve data, the reason for choosing a thermocouple sensor is because the error rate is +/- 1,1C while the LM35 is +/- 1,4C.

The thermocouple temperature sensor can detect the chamber temperature quite well where the biggest error is obtained with a comparator of 2%, and the lowest error is 0%.

Keywords: *Temperature, waterbaths, calibration, Arduino.*