

## **ABSTRACT**

*Since the corona virus in Indonesia, early detection of the corona virus is often done by checking a person's body temperature using an infrared thermometer. The purpose of making an infrared thermometer calibrator is to add a PID control to reduce the possibility of measurement errors, get a more stable temperature and be faster in achieving the temperature setting on the thermometer calibrator media. This study uses the Arduino system as data processing, using the PID system as a temperature controller on the Peltier element, the DS18B20 sensor as a temperature sensor and LCD as a display. The Overshoot result of the On-Off system is higher than that of the PID system. Oscillation values generated from the PID system are lower and stable than the oscillations from the On-Off system. So that the achievement of temperature stability is faster in the PID system. The highest error measurement using the On-Off system at the 41 C setting point is 0.0238%, the lowest error value at the 38 C setting point for the PID system is 0.0012%.*

***Keywords—Infrared thermometer; PIDs; Temperature; Body temperature; DS18B20; Peltier Elements.***