

ABSTRACT

One way to determine a person's health by knowing the condition of his body temperature. To know the temperature of the body needed a tool that can provide information about the temperature of our body. In obtaining such information usually we have to wait quite a long time. From these cases, the idea to design a digital thermometer non-contact the short time.

In this final project was designed without touch digital thermometer using MLX90614 sensor that functions as a detector of infrared radiation emitted by the body. Sensor MLX90614 capable of detecting radiation at an object temperature between $-70\text{ }^{\circ}\text{C}$ to $380\text{ }^{\circ}\text{C}$ to measurement resolution of $0,02\text{ }^{\circ}\text{C}$ for temperature range (0 to $+50\text{ }^{\circ}\text{C}$ for T_a and T_o). The output of this sensor has digital form as it has no ADC inside. To connect the micro controller and sensor used I2C communication and LCD for display output.

This system achieved the highest precision is obtained at a distance of 15 cm with values ranging from 98.90% to 99.50%. Good accuracy is obtained at a distance of 10 cm with values ranging from 98.70% to 99.92%.

Keywords: micro controller, sensor mlx90614, I2C, body temperature