ABSTRACT

Forehead Thermometer is an instrument used to measure body temperature via the forehead. Body temperature was obtained by measuring the heat through infrared rays released by the body. The use of these tools simply point the tool at the forehead with a distance of 5cm, then press the button directly read and display the measurement results on LCD.

Human body temperature tends to fluctuate at any time. Many factors can cause fluctuations in body temperature. Fluktasi excessive temperatures can cause hypothermia and Hipertermi, to cope with a changing body condition derastis due to differences in body temperature of the environment, typically used Thermometer. However, most digital thermometer takes ± 3 minutes to find out the measurement results.

To overcome this problem the authors designed the "Forehead Thermometer Based Microcontroller AT89s51" using MLX90247 sensor (Thermopile Infrared Detectors Discrete) as a Passive Infrared Sensor is enabled for receiving infrared energy from the forehead, and use as a signal conditioner IC MlX90313 is already integrated with the ADC.

Based on data retrieval in body temperature compared to the "Digital Infrared Forehead Thermometer" can be the value of error 1.1%, 1.0%, 0.9%, 0.6%, 0.3% at a distance of 1cm, 2cm, 3cm, 4 cm and 5 cm.

So that the temperature measurement is more efficient at a distance of 5 cm. From the above data, the error rate - the rate of 0.81% is owned equipment.

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Key words: Temperature, InfraredSensor