

## **ABSTRACT**

Calories meter is a tool that aims to harden the bar when the user community in particular calisthenics exercise. Usually the user of bar never know how many calories they spend when exercising, they just know if this exercise can increase muscle mass and endurance.

This tool is designed to utilize a pulse sensor to know the heart beats and affixed to the finger. Every heart beats will change the volume of blood that is on the finger, therefore, the sensor will read the changes. After the sensor read the user heartbeat, signal (data) produced amplified and processed in the microcontroller. Microcontroller will calculate the calories expended by the user parameters which is the gender, age, weight, duration of exercise, and the average heart rate (AHR). The parameters of age, gender, and body weight obtained from the user, while AHR and duration of exercise obtained from the sensor. The results of calculations that performed in the microcontroller will displayed on the LCD. This tool is equipped with additional features to calculate the motion reps, using flex sensors placed on the user's elbow.

This tool can calculate the expended calories while exercising, counting reps movement, and can be displayed on the LCD.

Key word : **Pulse Sensor, Flex Sensor, AHR, Microcontroller, Calisthenics**