PIC MICROCONTROLLER BASED TEMPERATURE MEASURING SYSTEM USING THERMOCOUPLE SENSOR

This thesis is presented in partial fulfillment for the award of the

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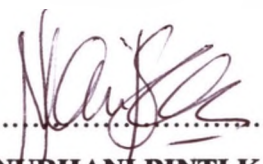

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(PROJECT SUPERVISOR)

DATE: 6/11/08

DECLARATION

I hereby declared that all materials in this thesis are the result of my own work and all materials which are not the result of my own work, have been clearly acknowledged in this thesis.

(AHMAD YASIR BIN MD ZAIN)

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ABSTRACT

This project aims to design a temperature measuring device that can detect and read temperature by the user. This solution allows detecting and measuring high temperature environment by a thermocouple sensor. The output of sensor unit is connected to a Chip MAX6675. It is basically takes milivolts produced by the standard J-type thermocouple then amplifies and filter the unwanted signal and then converted it into digital and output the temperature reading by interfacing the MAX6675 and LCD with PIC microcontroller. The MPLab software component includes the programming code via the PIC microcontroller. A simple, rugged digital temperature meter (LCD 16 x 2 displays) will display the temperature detected. This report also presents my temperature project reading comparing with actual temperature taken from digital thermometer as a result. From the result show this device have high accuracy and small error but less precision.

Keywords: temperature measuring, MAX6675, PIC microcontroller, ADC, LCD