ROOM TEMPERATURE MONITORING SYSTEM (SENDING DEVICE)

Thesis is presented in partial fulfillment for the award of the
Bachelor of Engineering (Honors) in Electrical
UNIVERSITI TEKNOLOGI MARA

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ACKNOWLEDGEMENT

Bismillahir Rahmanir Rahim.

All praises be to Allah S.W.T, the Merciful and Beneficent for the strength and blessing me throughout the entire research and completion of this thesis. Peace is upon our prophet Muhammad S.A.W; whose has given light to mankind.

Firstly, I would like to extend my sincere thanks to my beloved supervisor, Pn. Azilah Saparon and my ex-supervisor, Pn. Hafizah Hanim Ismail, for their guidance, suggestion and comment throughout the project completion.

My sincere and deepest thanks to all my colleagues, friends, lecturers, staffs of the Faculty of Electrical Engineering especially Rahimah Mohd. Zain @ Abd. Razak, Norhapizah Jamalus, Harnani Hassan and Umi Kalsom Ahmad.

Last but not least, I would like to share my greatest appreciations to my beloved parents, brothers and sisters, for their love and support for me in completing this thesis.

ABSTRACT.

This paper describes the Room Temperature Monitoring System (Sending Device) using the Peripheral Interface Controller (PIC). The system has a knob for setting the required temperature set point. To show the result, there are three lights to show the status of the system and temperature. The microcontroller used for this project is PIC16F873 with a built in A/D converter. The LM335 sensor is used to give an analogue output with initial accuracy, directly calibrated in Kelvin. The sending device MAX232 is used as receiver and transmitter. The controller software for the system was developed using MPLAB IDE software.

The PIC processor's ability to store and run unique program makes it extremely versatile and its ability to perform match and logic function allows it to mimic sophisticated logic and electronics circuits. Furthermore PIC is the cheapest microcontroller we can found in the market.

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INTRODUCTION

1.1.0 Introduction

Nowadays, most people living in large cities have lived indoors. Especially in hot days, high relative humidity, elevated air temperatures and bright sunshine can sometimes combine to produce an uncomfortable indoor environment. Therefore, people want to increase the quality of indoor environment. In this modern era, we have to maintaining and enchanting the quality of life, which involves facilitating independent living, greater social integration, opportunities for education and increasing the availability and technical assistance. Thus, technology has a big role in our life. The applications of technology have the potential to maintain and enhanced the quality life and even contribute in reducing the cost of care. Temperature controlling technology is one of the technologies that will make our life in good quality.

The objective of this system is to make sure the room temperature constant at all the time especially if it is installed in a very sensitive area, such as laboratory or hospitals. The system basically has a knob for setting required temperature set point. The three lights show the status of the system and temperature. The green light means the system is powered up properly, while the red light will on only if the temperature is increase above the set point and if the temperature is decreased below the set point range, and then the yellow light will on.

The main elements in this system consist of a PIC16F873 as the controller, a LM335 temperature sensor, a MAX232 as the receiver and transmitter device and an LM7805c DC supply. The PIC processor's ability to store and run unique program makes it extremely versatile and its ability to perform match and logic