INTELLIGENT AWNING

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DECLARATION

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

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ABSTRACT

This project report presents the automatic Intelligent Awning. This awning used fuzzy logic controller. The fuzzy logic controller is operates based on rules which known as fuzzy rules. This Intelligent Awning operates as human and requires no attention from the user. It operates automatically based on the sensor that has been implemented on the Intelligent Awning. The Intelligent Awning used light sensor and water sensor. The movement of the awning is controlled by the servomotor. FuzzyTech software is used for the purpose of designing the membership functions and setting the fuzzy rules. After the testing of the software, the file will be compiled to the C file. The FuzzyTech software will automatically generate the C file and the H file. Then the SDCC program will be used to generate the HEX file which will be used for the simulation on the Pinaccle software. These file will be transferred into the ATMEL AT89S52 IC. This IC contains all the operations involve in the Intelligent Awning. Overall the hardware is successfully interface with the software.

CHAPTER 1

INTRODUCTION

1.1 Introduction

Nowadays, the growth of sidewalks has increased rapidly due to changes in customer preferences who wants to have their meals in open environment. Most of this sidewalks café used canopy to prevent from sunlight and rain. Presently, the unexpected weather condition makes the canopy usage become impractical and less efficient. Besides, by using canopy also may need human to monitor. This Intelligent Awning is design to encounter all the problems that stated before and to eliminate the usage of canopy. The Intelligent Awning used fuzzy logic approach. The purpose of using fuzzy logic controller is because it can determine the vague information on the weather conditions. Fuzzy Logic Controller has proven to be a successful control approach to many complex nonlinear systems or even nonanalytic systems [6]. The Intelligent Awning operates automatically and at the same time eliminates the human involvement to monitor it. This Intelligent Awning also is suitable for any type of buildings such as restaurant, houses and many more. Basically, this Intelligent Awning is suitable for a residences that has a busy life and this Intelligent Awning is design to make them more convenient and easier. Other than that, the reason why Intelligent Awning is design is due to the peoples who are seeking for a technology that offer a friendly use of appliances and minimize consumption of energy.

This project report discussed on the developing of the Intelligent Awning which consists of hardware and software. In order for the system to be intelligent, it require a sensor to sense the input signal and the output will change based on the signal that obtained from the sensor. The Intelligent Awning consists of two sensor which works as the input of the system.