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FINAL PROJECT REPORT OF DIPLOMA PROJECT

INFRARED SENSOR FOR THE SMART HOME

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ABSTRACT

Infrared sensor is a security system designed to detect the any movement by using the infrared sensor however, this single detection will not detect if the sensor fails such as breakdown or damage and the operation will not be operated.

In this project, we can see how the infrared sensor is operates and also to make sure the objective of our project was successful.

This circuit is to detect an object in front of the device (door) without obstructing an IR beam. For this IR it should be pointed in the same direction as the IR module and at the same level. When the switch S1 is in transmitter is ON, the current will flow into the circuit. Then the IR emitter will produce a signal (input). Then that signal (input) will pass into the receiver (IR detector). VR (100K Trimmer Pot) should be adjust until the receiver detect the IR beam (IR emitter). When there are nothing in front of the IR beam (IR detector), IR beam is not receiving any of signal, then the circuit will active. In other word, when something are crossing the line of the signal or blocking, the detector can't detect any signal, automatically the circuit will active. Then the relay will consist to be used to turn ON the buzzer. Then the buzzer will producing a output (sound).

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CHAPTER 1

INTRODUCTION

1.1 Background

Home security is proven deterrent to intruders but a system installed by an alarm dealer a cost a thousand of RINGGIT. As alternative, a simple alarm system with a multiple sensor can be designed. In this project, we had chosen the sample Infrared sensor model

These circuits use an Infrared Emitter and the infrared Detector.

In designing circuit, this circuit is easy to build but hard to finish it. It is because we not taking a lot of time to built and design the circuit. At the same time is hard to finish this project because it takes a long time to choose and find the applicable circuit with the topic given.

For the equipment aspect, the component just refers to the circuit chosen. If choose the hard circuit its means the components is also hard to finds and maybe it will be take a time buy or to order first. But if choose the simple circuit, it maybe easier to find the components needed. Some components are very easy to find and buy especially at the electronic components shop or from the components distributor or supplier. Some component needed to order and it takes a time to have. Besides that, the components are also very cheaper.

In application aspect, it was very useful for the specification of the house security system, where it used a detector and it will be detect any movement such as intruders by strangers. By using this circuit, it has a lot of advantages. This circuit is very useful. These components are also very smaller and hard to see by people and it also can put everywhere or anyplace.

This circuit can put anywhere such as in front or back of the door and the window. This circuit will operate and it to detect an object in front of the devices without obstructing an IR sensor. The LED should be pointed in the same direction as the IR module and at the same level.