

AUTOLIGHT SENSOR WITH ALARM

MUHAMAD ZAMIR BIN MOHAMED SA'DOM
FARID SYAZWAN BIN AHMAD SHUKERI

A project report submitted in partial fulfillment of the requirements for the award of the degree of Diploma of Electrical Engineering (Electronics / Telecommunications / Instrumentations / Computer)

Faculty of Electrical Engineering
Universiti Teknologi MARA

APRIL 2011

TABLE OF CONTENTS

CHAPTER	CONTENTS	PAGE
	DECLARATION	ii
	DEDICATION	iii
	ACKNOWLEDGEMENTS	iv
	ABSTRACT	v
	ABSTRAK	vi
	TABLE OF CONTENTS	vii
	LIST OF FIGURES	ix
	LIST OF SYMBOLS	x
	LIST OF ABBREVIATIONS	xi
	LIST OF APPENDICES	xii
 1	 INTRODUCTION	
	1.1 Objective	2
	1.2 Scope	3
	1.3 Problem identified and solution	3
 2	 LITERATURE REVIEW	
	2.1 Autolight History	4

3	METHODOLOGY	
3.1	Proteus 7 Professional	6
	3.1.1 Circuit Design Process	6
	3.1.1.1 How to design a circuit using Proteus	6
	3.1.1.2 How to design a PCB	8
	3.1.2 Proteus 7 Professional Features Summary	11
	3.2 Circuit implementation	12
	3.2.1 Power Supply	16
	3.2.2 Passive Infrared Sensor(PIR)	17
	3.2.3 System Operation	17
4	RESULTS AND DATA ANALYSIS	
4.1	Project Result	18
4.2	Simulation Result and Analysis using Proteus 7	21

ACKNOWLEDGEMENT

In name of ALLAH

Most Gracious and Most Merciful

First and foremost, we would like to thank tp our supervisor, Miss Nik Nur Shaadah binti Nik Dzulkefli for all his valuable guidance, assistance and support throughout our studies at University Technology MARA. She effort and contribution in finished this project successfully.

Sencondly, we also wish to thank to all of our friends especially to final year diploma students in Electrical Engineering for their suggestion and support on this project. Their comments on this project are greatly appreciated.

Lastly, we also extend our gratitude to our parents for their support, patience and assurance during our pursuit for higher studies. They have encouraged us throughout our education, and we will always be grateful for their sacrifice, generosity and love.

ABSTRACT

Our main purpose of this project is to construct and make a project that can alert people if there are any thief in their house area and also can reduce the electricity cost. Infra-red auto light is light-producing device that activates in response to motion. Upon activation, such a lamp will generally remain active until a certain amount of time has passed in which it has not detected motion. Such lamps are commonly used to prevent from thieves and benefited in reducing electricity costs as they automatically turn off when people aren't present rather than remaining constantly active. Auto light is driven by a low-sensitivity, low-power infra-red sensor to provide movement-sensitive lighting. Like security light, this unit uses a passive infra-red detector. As a reminder, only a limited range is required as it can achieve only for 5 to 7 metres and in 110 degree sentry angle .Furthermore it also can be used for indoor. As an example, if we woke up in the middle of the night to go to the toilet or anywhere else, we don't have to find the switch to turn on the lamp. The lamp will remain on in a period of time only. So, it will help us to reduce the cost of electricity.