

MEASURE DISTANCE USING LASER AT SMALL CONSTRUCTION

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ABSTRACT

The project is actually an alternative of the existing measuring devices in the market. The main idea of this project is to invent a new measuring device that resemble with the advance measuring devices in terms of its operation, but with lower production cost. Based on the site analysis, people who work at small construction site usually use the conventional method such as measuring tape as it cost effective and user-friendly. However, the conventional device has its limitation in measuring longer distance and cannot be handled by single person. The advance measuring device such as reflectorless total station only worth for big budget project like housing areas or construction in urban areas. Hence, a new measuring device is developed by using only the basic concept of simple Pythagoras Theorem in order to overcome all of these problems.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

For this final year project in electrical electronic, we have been decide to do a project that must have minimum one input and two output and also must have microcontroller which Programmable IC or Arduino. Our project is to measure distance using laser at small construction. To complete the project we use PIC16F877A as our microcontroller. The input of our project is potentiometer and switch. The function of potentiometer to get the angle so it must connected to pin A which is analog at PIC16F877A. For the switch, we declare it as input to get angle or distance and reset.

The output for our project are LCD and LED. We use LED to know whether the circuit is function or malfunction after we give supply. If the circuit is function both LED will light up. Else, the LED is not flashing. We use LCD 16x2 to display angle, distance and the tittle of our project. To determine the space for angle, distance and tittle we count the word and then we transfer to the coding to the fit the word for LCD to display. If we are not count the word so we need to buy new LCD which is the space is more than 32.