ROBOTIC ARM CONTROLLER USING COMPUTER INTERFACING

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ABSTRACT

This project is about to develop a robotic arm controller by using computer interfacing. The technique uses the capabilities of the computer's parallel port to provide an 8-bit input. The software that is use to provides the interface is Microsoft Visual Basic. The scope of this project is to control the robotic arm to pick the specified object and move it to the specified angle or direction. At the end of this project, the robotic arm finally can be operated by itself automatically at actual job just by clicking on one switch or button. In this project, ROB 3 – EUROBTEC was used to interface with the programming.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

In worldwide industrial, robot is designed to perform a specific work and task in order to reduce the cost of labor and time production. Robotics in the meaning is the science of designing and building suitable for real-life application in automated manufacturing and other non-manufacturing environments. Robots are the means of performing multifarious activities for man's welfare in the most planners and integrated manner, maintaining their own flexibility to do any work, effecting enhanced productivity, guaranteeing quality, assuring reliability and ensuring safety to the worker [5].

As technology progressed and the need for greater external connectivity increased, the parallel port becomes the means by which users could connect higher performance peripherals. In this project, parallel port will be use as a medium to interface between the software and the robotic arm. The reason of using parallel port in this project is its maximum data transfer rate, which is around 150 kilobytes per seconds, and it is extremely software intensive. However, as great as this parallel port itself has, it also has limitation which is the connection can be carried out not more than 6 feet using the external cables [4].

The purpose of this project is to build a controller for the Robotic Arm so that it will be able to pick an object, move the object to the given location and return to original position by using Microsoft Visual Basic 6.0 and parallel port as its medium to connect with the interfacing circuit. The important parts of the programming for this project are:

1. Accuracy and time actual to do some job
2. Choose a right motor to move a part of robot.