INTEGRATING PROGRAMMABLE LOGIC CONTROLLER (PLC) TO DETECT METAL AND NON METAL PART

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"I declared that this thesis is the result of my own work except the ideas and summaries which I have clarified their sources. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any degree"

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ABSTRACT

A programmable controller or Programmable Logic Controller (PLC) is a device which is capable of being programmed to perform a controlling function. Before the advent of the programmable controller, the problem of industrial control was usually solved by the use of electromechanical relays or by hardwired solid state logic blocks. These systems were very flexible in design and easy for maintenance personnel to understand.

The main objective of this project is to develop a program to control a sorting process by using CX PROGRAMMING of the Programmable Logic Controller (PLC). The project requires the fabrication of a system (model) that interfaces with a PLC and integrates with proximity sensors. The main task of the system is to sort objects accordingly to the type of materials upon detection.

In order to design the sorting device system, an understanding of the desired function of the process and the PLC are required. It also covers the hardware design for the sorting system and the operation of input and output devices used. The hardware system need to be interfaced and correctly connected to the input and output units of the PLC. The software development includes the design of the flow chart for the process control and the ladder diagram. Finally, the integrated system is tested to ensure that the process sequence is achieved through the use of the PLC.

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