INSTITUT TEKNOLOGI MARA

SHAH ALAM SELANGOR

MALAYSIA

SCHOOL OF ENGINEERING

INSTRUMENTATION ENGINEERING DEPARTMENT

FINAL YEAR (DIPLOMA) PROJECT REPORT

ON

PRODUCT COUNTING SYSTEM

IS SUBMITTED AS PARTIAL FULFILMENT FOR THE REQUIREMENT
GOVERNING THE AWARD OF DIPLOMA IN ELECTRICAL
(INSTRUMENTATION) ENGINEERING OF SCHOOL OF ENGINEERING
INSTITUT TEKNOLOGI MARA.

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UNDER THE SUPERVISION OF:

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PREFACE

Our project entitle "Product Counting System" is designed for industrial purposes that counting the number of products. The system can count from 0000 to 9999. The model of the system is shown in figure 1.0 . It consists of two major parts are: Electronic circuit and Pneumatic circuit.

The model that we designed needs the knowledge of pneumatic and electronic. In doing this project, many things have to be taken into consideration. A lot of researchs have to be carried out. Discussions and meetings have to held frequently to solve designing problem that arises.

We hope this report will be useful to those interested to know about the system.

ACKNOWLEDGEMENT

We would like to take this opportunity to express

our sincere appreciation to our Project Advisor for his

guidance and encouragement to complete this project.

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TABLE OF CONTENT

1.0 INTRODUCTION

Product Counting System is a system that widely used especially in factories to save time and manpower as well as to cut cost of operation. The number of products which are to be counted are not limited and that depend on the design of the system. Figure 1.0 shows the schematic diagram of Product Counting System that we had designed. In this system, we used four cip 7490 decade counter, four cip 7447 decoder and four seven-segment LED so that the counter can count from 0000 to 9999. It is then automatically reset to zero(0000).

The block diagram of figure 1.1 shows the operation of the counter. When the piston push a product, the product will moved across the light beam and this causes the phototransistor to be cut OFF. This will trigger the decade counter and the amount of products passes through the light beam will be displayed on the seven-segment LED.