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ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

DESIGN OF THE ELECTRICAL SERVICES  
OF A FACTORY

E / 1057

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# **Design of the Electrical Services of a Factory**

**Project report submitted by:**

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*Dedicated to my parents for the support and guidance they  
have always been giving.*

*Thank you for everything.*

## SUMMARY

The design of the electrical services of a factory and generally of any establishment is a laborious task which must be carried out with care and responsibility as it is directly involved with the safety of people, livestock and property.

The whole design was carried out according to IEE regulations 16<sup>th</sup> edition. For the Fire and Burglar alarm systems BS5839 and BS4737 regulations were taken into account. For the telephone installation CYTA rules were considered. All devices used and equipment employed were selected to comply with the above mentioned rules.

The design of the electrical services of the factory is explained in details in the book. The book has been divided into chapters to simplify the study of the project. The contents of the book and of each chapter are given at the beginning. At the end of the book six appendices are included. In each appendix, there are tables and charts used in the design, manufacturers data catalogues giving specifications for the devices and equipment used, and eventually diagrams illustrating the construction of the systems.

## ACKNOWLEDGEMENTS

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## INTRODUCTION

Design of the electrical services of a factory. As the title states, this project is to deal with the design of the electrical services of a label production factory.

The objectives of this project are:

1. To design the complete electrical services for a specified factory which include the following:
  - Fire and burglar alarm systems
  - Telephone installation and internal communications
  - Power factor correction
2. To study the illumination engineering work involved.
3. To provide all necessary diagrams, schedule of materials and costing including labour.

The project is undertaken from the following terms and conditions:

1. Supply: Three phase 415 Volts rms, TT earthing System.
2. Architectural drawings of the factory together with details of the load will be provided.
3. The design must be carried out in accordance with the IEE Wiring Regulations 16<sup>th</sup> Edition as currently amended and the EAC conditions of supply.