HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

DEVELOPMENT OF EDUCATIONAL PROGRAMS FOR PROGRAMMABLE LOGIC CONTROLLERS

by

AVRA[illegible]CHRISTOS

DEVELOPMENT OF EDUCATIONAL PROGRAMS FOR PROGRAMMABLE LOGIC CONTROLLERS

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Project supervisor: Mr. J. Demetriou
Lecturer of HTI

Designed by:

AVRAAMIDES CHRISTOS

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To my family

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SUMMARY

This book intends to discuss mainly the Programmable Logic Controllers, explain the internal and external operation and show their applications in the modern industry. It will explain the superiority and advantages, the usage and applications.
Few educational programs were chosen to illustrate better the characteristics and capabilities of the PLC's. These are simple programs that guide the "mechanical process" to demonstrate certain simple applications. With simple example the "ladder" programming language will be examined and few associate programs will be introduced and analysed.
Since the topic of Programmable Controllers is relatively difficult to be understood by people with little technical knowledge, the purpose of this book is to introduce the subject in the simplest way. It is not my intention to present any sophisticated material that will be addressed only to engineers, because any other book will make a better impact. I decided to write this book to apply to any category of people so as to make the subject matter of PLC's more accessible.
The language is very simple and the technical clauses are minimised where possible and explained thoroughly. Special care was taken to explain in understandable words, every single technical word that is needed to be inserted.
Pictures and diagrams are used throughout the book to illustrate the subject matter and make the reading more pleasant.
The application programs are applied to an Alan-Bradley micrologic 1000, PLC which guides a mechanical process simulator with the assistance of an external power supply and also with the help of a mechanical process interface, to demonstrate basic functions of PLC capabilities.
Different techniques are used to cover a wide range of programming capabilities. References are taken from a variety of books on Programmable Controllers and other manual and data sheets.
So enjoy the PLC's remarkable capabilities...