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PLC Basics Training

View Course Details

COURSE DATES AND TIMES

PLC Training Basic - Our 12-Hour (2-Day) live online instructor-led industrial automation course is designed to instruct electrical control professionals on how to successfully integrate a PLCs into actual day-to-day industrial electrical processes.

The course not only deals with the hardware and software, but all the surrounding systems that must be compatible to achieve a safe and reliable control system.

This PLC Training Basic course is generic in nature and applies to all PLC types and manufacturers.

Our PLC Training Basic course is also designed to help delegates keep abreast of the latest PLC technologies and techniques available in this area, this tutorial offers an excellent opportunity for delegates to ask specific questions and exchange ideas relating to their own applications.

This course is intended for experienced users and will give them greater knowledge of enhanced PLC functionality. The Programmable Logic Controller has evolved over the years and this course will provide the information required to make knowledgeable decisions about PLC applications in their individual manufacturing environments and allow for students to make well-informed decisions about existing control applications and to determine what is required for future applications. This PLC training course will also allow students to determine if plant personnel are prepared to meet the new challenges of the ever-changing plant manufacturing environment or if personnel require additional training to meet these challenges.

PLC Training Basic Course Objectives:

PLC Training is designed to instruct electrical control professionals on how to successfully integrate a PLC into actual day-to-day industrial electrical processes. It not only deals with the hardware and software, but all the surrounding systems that must be compatible to achieve a safe and reliable control system. This training is generic in nature and applies to all types and manufacturers.

WHO SHOULD ATTEND

- PLC Engineering and design control personnel
- Electrical maintenance and technical services personnel
- Electrical engineering and design personnel
- Process and operations personnel
- Technical and process managers
- Electrical consulting engineers
- Electrical contractors

STUDENTS RECEIVE

- 100-Page Digital PLC Handbook - Value $20 (Details Below)
- 1.4 Continuing Education Unit (CEU) Credits
- A **FREE** Magazine Subscription (Value $25)
- **$100** Coupon Toward Any Future Electricity Forum Event (Restrictions Apply)
- Course Presentations In Paper Format

COURSE OUTLINE

PLC Training Basic Training Course Outline

DAY ONE

Introduction
This PLC Training course is intended for users with advance knowledge of Programmable Logic Controllers and how PLC's function. Advancements in PLC technology and functionality, programming, networking and communications as well limitations and application considerations will be discussed.

Overview of PLC Training Course and Review

- A preview of what is to be covered
- To determine where the users are today.

Hardware Advancements
Hardware technology has physically shrunk in size but grown in capabilities. The informed users will understand the technology and allow them to minimize user logic by eliminating I/O configuration and scaling logic that is often required by the manufacturer.

- Size and Capabilities

New Functionality of PLCs
PLC's have evolved over the years from simple relay replacement devices to devices that have powerful processing capabilities. The user instruction set evolved along with the PLC, giving the informed user the ability to maximize the processing power of the PLC. This will allow the users to enhance their manufacturing process by understanding and applying the enhanced capabilities of the PLC from simple relay ladder logic to advanced motion and process control technology.

- Logic

Enhanced Instruction Set
The enhanced instruction set gives the users greater flexibility monitoring their system, setting system values, greater math capabilities, more power data manipulation and retrieval, equipment monitoring, motion control, ASCII comparisons and conversions and debug capabilities.

- Enhanced Instruction Set (New Enhancements to current instructions)
- I/O Instructions
- Compute and Math Instructions
- Move and Logical
- File/ Miscellaneous
- Equipment Phase Instructions
- Program Control Instructions
- For/Break Instructions
- Motion Instructions and Sercos
- ASCII Instructions
- Debug Instructions

Function Block Programming
Function block programming gives the user enhanced process control capabilities and control by utilizing the enhanced PID function block instruction and associated block instructions to maximize control of their process. Function block programming programming also gives the user the ability to use logic in a Boolean form, to scale and totalize without complex math calculations used in relay logic.

- Uses and limitations
- Drive Controls
- Process and Batch Control
- Filtering
- Statistics and Averaging

Structured Text Programming
Structured text programming allows the user to program in a simple text format and uses the same instruction set, with some exceptions, as relay the relay logic instruction and the function block instruction set. This allows for straight forward programming without the

need for annotation of relay ladder logic or function block programming.

- Uses and Limitations
- Instruction Usage
- Future Attractions
- What’s next in programming?

DAY TWO

Communications and Connectivity
Communications is an ever changing technology and the PLC communication methods have changed along with the technology of today’s world. There are many communications platforms, or protocols available in today’s manufacturing world and the informed user will be able to interface from one platform to the other as seamlessly as possible and allow data acquisition from as many points as required by their process or facility.

- Networking
- Modbus, Data Hiway and Profibus
- Ethernet Connectivity and Pitfalls
- Ethernet
- Adapting Current Systems to the Ethernet

Intelligent Sensors and Third Party Vendors
In today’s manufacturing market place intelligent sensors and vision are having a larger influence on the plant floor environments. The HART protocol is the industry standard and the user will learn the techniques required to interface the PLC to HART protocol products as well as vision products.

- HART
- Vision Systems

PLC and HMI and SCADA Compatibility
Most of today’s PLC systems have a human interface product attached to them, either for operator use or for both operator use and data acquisition. Both will be discussed in this section and a comparison of various software platforms and driver capabilities will be examined giving the use valuable information which will allow the user to make a well informed decision when selecting a HMI or SCADA product to best fit their application.

- Software Computability
- Networking and Communications

Open Discussion of PLC Applications

Questions and Answers

COURSE SCHEDULE

Start: 10:00 am Eastern Time
Finish: 4:30 pm Eastern Time

Contact us Today for a FREE quotation to deliver this course at your company's location.

Request Quote