Learn About:

- How PLCs Work

- PLC Terminology

- Parts of a PLC

- Hardware Considerations

- Organization and Function of Ladder

- Logic Ladder Logic Data Table Organization

- Introduction to Programming

- Common PLC & PID Instructions

- Organization

- Relating the PLC to "Real World" Applications

- Safety

- Forcing of Input Data Table & Output Devices

- Identifying I/O Field Device and Module Faults

- Identifying System Faults Using the Data Monitor Screen

- Using the Processor Status and I/O Status Screen

- The "Ultimate PLC Troubleshooting Flowchart"

- Using Troubleshooting Tools

- Using Software Tools

- "Real World" Case Studies

Understanding and Troubleshooting
PLCs for Non-Programmers™

Specifically Designed for Maintenance Personnel and Electricians in Plants, Facilities and Commercial Buildings

Day 1 - Speaking the Language of PLCs

Day 2 - Reading, Troubleshooting, & Fixing PLCs

- Reserve your space now! **CALL 1-877-978-7246**

- Check us out online at live.tpctraining.com for a complete listing of all seminars coming to your area

- This seminar is also available as an **Online Simulcast** or can be brought **On-Site** to your facility

SEMINAR OVERVIEW

Using hands-on demonstrations in this introductory PLC course, we convert the seemingly complex world of automation and Programmable Logic Controllers (PLCs) into practical lessons the average non-programmer can understand.

This course focuses on understanding PLCs; how they work, terminology, and the hardware and software elements that make up a programmable logic controller and fix the most common PLC problems on their own.

WHAT YOU WILL TAKE HOME

- Comprehensive classroom materials
- A Personalized Training Certificate with 0.8 TPC Training Continuing Education Units for each day attended, 1.6 for both days.
- All the information you need from asking our instructors specific questions about your own unique equipment or facility.

CONTINUING EDUCATION

Upon completion of this seminar, the student will receive a Certification of Completion and .8 TPC Training CEUs per day attended. Most employers and many government agencies accept TPC Training CEUs to fulfill their continuing education requirements. If the student needs CEUs to renew a state license, please contact us at 303-867-5039 to ensure the state licensing board has approved the seminar. If we are currently not approved by your state licensing board, we are happy to begin the process as long as we receive your request at least one month before the training date.

TRAINING PHILOSOPHY

TPC Training's curriculum is designed to provide complete coverage of essential industrial maintenance skills, across a full range of electrical training, HVAC, plant management, and mechanical & industrial topics. Our "see, touch, do" instructional approach allows us to impart practical skills in an intensive format.

The most vital part of our seminar format is the coverage that goes beyond the course outline. Our small class sizes allow each instructor to tailor the course to address students' individual needs, concerns, and experience levels. Our instructors deliver content with hands-on exercises, demonstrations role-playing, visuals, and case study discussions.

▶ *"…this was a huge bang for the buck!"*

  Mark E. – O/M Technician

DISCUSSION TOPICS

- Speaking the Language of PLCs
  - Hardware Focus
  - How PLCs Work
    - Past
    - Present
    - Future
  - PLC Terminology
  - Parts of a PLC
    - Input Interfaces
    - Processor
    - Output Interfaces
    - Power Supplies
    - Programming Terminals
  - Hardware Considerations
    - Field Wiring
    - Master Control Relay
    - Isolation Transformers
    - Grounding

- Reading PLC Ladder Logic
  - Organization and Function of Ladder
  - Logic Ladder Logic Data Table Organization
    - Numbering Systems
    - Data Table Files
    - Bit, Word and File Addressing
  - Introduction to Programming
  - Common PLC & PID Instructions
    - Basic Relay
    - Counters and Timers
    - Data Transfer
  - Organization
    - Subroutine Files
    - Selectable Timed Interrupt (STI) Files
    - Jumps and MCR Instructions
    - Fault Routines
  - Relating the PLC to "Real World" Applications

- Troubleshooting PLC Systems & Components
  - Safety
  - Forcing of Input Data Table & Output Devices
  - Identifying I/O Field Device Faults
  - Identifying I/O Module Faults
  - Identifying System Faults Using the Data Monitor Screen
  - Using the Processor Status and I/O Status Screen

- Finding & Fixing the 10 Most Common PLC Problems
  - The "Ultimate PLC Troubleshooting Flowchart"
  - Using Troubleshooting Tools
  - Using Software Tools
  - "Real World" Case Studies

SEMINAR FEE & AGENDA

This 2-day course is just $1195 (Earn 1.6 CEUs)

7:30 am	Registration
8:00 am	Class Begins
12:00 -1:00 pm	Lunch (on your own)
4:30 pm	Class Ends

NO RISK REGISTRATION & MONEY-BACK GUARANTEE

You can reserve your space in the class at any time and cancel without penalty. Cancellations made more than 14 days prior to the seminar may be refunded or rescheduled. Cancellations made within 14 days may be rescheduled for any future topic and/or date. If you're not satisfied with the course, we'll promptly refund your payment.

JOIN OUR CLASSROOM SEMINARS FROM VIRTUALLY ANYWHERE

live.tpctraining.com/simulcast

Our simulcast option allows students to connect to a live classroom seminar via a web link, with the ability to participate fully in the classroom dialogue, exercises, and Q&A. Online participants get all the benefits of the full classroom experience, plus the convenience of remote access.

Features include

- Two full days of live, interactive instruction from a TPC Training instructor
- All classroom materials in PDF format
- Certificate of completion for 16 hours of live training
- Full technical support to ensure your online experience is a rewarding one

BRING THE TRAINING ON-SITE TO YOUR FACILITY

live.tpctraining.com/on-site

Every public seminar class in our Course Catalog can be conducted on-site, with the same expert instructors. To arrange an on-site training, call or email us at onsite@tpctraining.com.

Some Advantages of On-Site Training

- Cost Savings — Save time and travel costs by keeping workers on-site
- Customized Content — Tailor the seminar to your facility and equipment
- Flexibility — Accommodate multiple shifts and different start and end times

TPC TRAINING