



ADVANCED TROUBLESHOOTING ELECTRICAL CONTROL CIRCUITS

Training Workshop

Industrial Training, Inc., provides on site, as well as centralized, troubleshooting electrical control circuits training. The intention of this course is to provide students with a working knowledge of practical and useful troubleshooting techniques. The benefits to maintenance, operations, and the company are lowered costs through higher efficiency. The following outline gives an overview of the more detailed curriculum:

DAY ONE

- Control Circuits (Ladder Diagrams)
 - Control Element Arrangement
 - Tag Names
 - Various Types of Switches
 - Push Buttons
 - Relays
- Electrical Schematics
 - Features of Circuits
 - Component Location
 - Troubleshooting
 - Measuring Ohms, Current, Voltage
 - Open Faults vs. Shorts
- Logical Circuits
 - AND/OR/NOT/Complex & Compound Circuits
 - Proper Tools and Their Uses
 - Logical Troubleshooting Methods
- Basic Electrical Principles
 - Power Supplies
 - Electrical Flow
 - Hands-On Labs
- Disconnecting Devices
 - Disconnects
 - Circuit Breakers
 - Application Detailed Circuits
 - Common Pumping Circuits
 - Common Heating/Cooling Circuits
 - Alarming & Latching Circuits
 - Conveyor Control Circuits
- Supplementary Contract Symbols and Nomenclature
- Understanding Circuitry



DAY TWO

- Understanding Types of PLC's
- Understand Addressing
- Addressing Types & Techniques
- Types of Modules
- Using Meters & Taking Measurements
- Troubleshooting
 - Power Supply
 - Input Modules
 - Output Modules
 - CPU
- Common Failures

DAY THREE

- Drives
 - Communication
 - Hardware
 - Startup Procedures
- Troubleshooting
- Overview & Summary

Training is geared toward individual capability for advanced training. This skills building method gives personnel the training needed to troubleshoot and maintain equipment in order to reduce costly downtime.