

70E+PLUS MORE the hands-on solution for your qualified employees

70E+Plus More

**2-DAY
TRAINING**

Training Description:

This training class equips attendees with advanced techniques in hands-on electrical troubleshooting and basic industrial electricity. Not only will they learn the methods, they will have a chance to put some of what they learned into practice as part of the seminar.

Specifically, attendees will learn the functions of: off-delay timers, photoelectric sensors, and alternating relays - all while working with motor starters, selector switches, push buttons, control relays, and timers. There is also instruction on three-phase electric motors, including motor construction, nameplate data, principles of operation, terminal markings, electrical connections, enclosures styles, and proper troubleshooting.

Included in this training is instruction on how to properly size overloads, fuses, and circuit breakers to protect motors. The attendee will learn the common causes of failure of electric motors and the steps necessary in troubleshooting. PLCs will also be introduced and discussed in the context of how they apply to maintenance personnel.

Attendees will build common industrial electrical circuits, including tank fill control and duplex-pump control, and then repair them after the instructor has inserted a realistic fault. The instructor will work one-on-one to find and fix the problem.

The material covered in 70E+Plus More will be practical and is designed to make an immediate, positive impact to your maintenance department. This seminar is hands-on and gives each attendee the opportunity to work with real electrical components, while building and troubleshooting from ladder diagrams.

REMEMBER: Attendees should bring a multimeter, preferably the one they use on the job, with them for this hands-on training.

THREE-PHASE MOTORS

- Construction
- Nameplate
- Motor Enclosure
- Motor Connections
- Principles of Operation

MOTOR CIRCUIT COMPONENT SIZING

- Ground Fault / Short Circuit Protection
- Fuses
- Circuit Breakers
- Motor Starters
- Overload Protection

TROUBLESHOOTING

- Motors
- Common Causes of Failure
- Motor Checking
- Control Circuits

PROGRAMMABLE LOGIC CONTROLLERS

- What They Do
- How They Do It
- Troubleshooting Basics

MULTIMETER BASICS

- Categories and Safety

RELAYS

- 8-Pin Tube Base (Ice-Cube)
- Time Delay On
- Time Delay Off
- Alternating

PHOTOCELL OPERATION

TROUBLESHOOTING THREE-PHASE MOTORS

- Common Faults
- Common Tools

TROUBLESHOOTING TIPS CIRCUITS

- 3-Wire Control
- Permissives
- Multiple Panels
- Hoist Control
- Start Delay
- Staggered Start
- Overheat Protection Using Time-Delay Off
- 3-Wire Control Using Start Relay
- Hydraulic Ram Control
- Automatic Duplex Pump Control
- Two-Speed Motor Control
- Excessive Cycle Prevention
- Short Cycle Prevention
- Circuit Drawing Exercises

PREREQUISITE: 70E+PLUS

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