

# Electric Motors for Maintenance Technicians



This 2-day class is designed for technicians in the field responsible for installing and troubleshooting electric motors. Electric Motors provides a comprehensive overview of electrical theory and fundamental motor operating principles as they relate to installation and troubleshooting procedures.

Many different types of specialized motors are explained. Installation, maintenance, and troubleshooting are discussed in detail. Motors also presents correct safety procedures in compliance with the National Electrical Code® and NFPA 70E®.

# Electric Motors for Maintenance Technicians

## Course Topics and Objectives

- Magnetism and Induction
- Motor Construction and Nameplates
- AC Alternators
- Three-Phase Motors
- Synchronous Motors
- Single-Phase Motors
- Motor Protection
- DC Motors and Generators
- Starting
- Braking
- Multispeed Motors
- Adjustable-Speed Drives
- Bearings
- Drive Systems and Clutches
- Motor Alignment
- Overcurrent Protection
- Overload Protection
- Wire Sizing
- Conduit Sizing
- Wye Connections
- Delta Connections
- Low Voltage Wiring
- High Voltage Wiring
- Troubleshooting Motors

Hands- On Lab activities include:

- Testing Motor Windings With an Ohmmeter
- Testing Motor With a Megger
- Using an Ammeter to Test Current Draw

Our Specially Designed Troubleshooting Trainer Will Teach Students Troubleshooting Techniques on How To Determine the Cause of Failure.

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## Who Should Attend:

- Energy management personnel
- Apprentice and experienced HVAC technicians
- IT Technicians
- Fire Alarm Technicians
- Electricians
- Multi-craft personnel
- Plant & facility maintenance technicians
- Building engineers
- Building managers & superintendents
- Plant & facility managers
- Stationary engineers
- Anyone who needs cross-training on VFDs

## Onsite Training:

- We offer onsite training at your facility.
- We can provide the same courses as we offer in public seminars. We can even design courses especially to meet your needs.

## Advantages of On-Site Training:

- Modify the content to your specific needs
- Protect company privacy
- Workers remain on site in case of an emergency
- Saves time and travel costs
- Instructors can discuss your specific equipment
- Problems can be openly discussed
- Flexible scheduling
- Increased price savings as the groups get larger
- Promote teamwork & camaraderie among workers
- More comfortable learning environment

## Class Options:

### 2 Day Class

- Ladder Diagrams and Schematics for Maintenance Technicians

### 2 Day Class

- Motor Controls for Maintenance Technicians

### 2 Day Class

- VFDs for Maintenance Technicians

### 4 Day Class

#### Motor Controls Workshop

- Ladder Diagrams and Schematics for Maintenance Technicians - 2 Days
- Motor Controls for Maintenance Technicians - 2 Days

### 5 Day Class

#### Motor Controls Workshop

Ladder Diagrams and Schematics for Maintenance Technicians - 2 Days  
Motor Controls for Maintenance Technicians - 2 Days Plus 1 Full Day of Troubleshooting

Note: The 4 day workshop combines Ladder Diagrams and Schematics for Maintenance Technicians and Motor Controls for Maintenance Technicians to form a 4 day class.

Note: The Troubleshooting Bootcamp combines Ladder Diagrams and Schematics for Maintenance Technicians, Motor Controls for Maintenance Technicians and a Full Day of Troubleshooting to form a 5 day class.