

VFDs for Maintenance Technicians



This 2-day class is designed for technicians in the field responsible for installing, programming, troubleshooting, and retrofitting electric motor drives. This industry-leading resource begins with electric motor principles, power requirements, and control methods and focuses on the safe operation, installation, startup, and troubleshooting of electric motor drives.

This class is 75% Hands-On. Over 30 hands on lab projects.

We use custom training equipment made to be just like the equipment on the floor. One work station for 2 students. Maximum of 10 students per class.

We use Allen Bradley PowerFlex 525 Drives for this class.

VFDs for Maintenance Technicians

Course Topics and Objectives

- Describe the advantages of using solid-state switching.
- Explain how heat affects solid-state switches.
- Describe resistors and capacitors.
- List the different types of semiconductor devices used in electric motor drives.
- Describe integrated power modules.
- Explain how to prevent electrostatic discharge from damaging electronic components.
- Describe the function of the three main sections of an electric motor drive.
- Explain how pulse width modulation (PWM) is used to control a motor.
- Describe AC drives.
- List the considerations that need to be addressed when installing an electric motor drive.
- Explain how poor power quality affects electric motor drives.
- List the factors that must be considered when installing an electric motor drive.
- Describe electric motor drive wiring.
- Discuss the importance of parameters.
- Describe different electric motor drive programming devices.
- List programming features that are included in basic parameters.
- List programming features that are included in advanced parameters.
- Describe the process of performing an initial check on an electric motor drive.
- Describe the process of performing a secondary check on an electric motor drive.
- Describe the process of performing a final check on an electric motor drive.
- Hands-on lab projects
- Safe Torque Off
- Setup for ethernet
- Network configurations
- CCW software programming
- Setting up drive for the following applications:
 - Conveyor
 - Mixer
 - Compressor
 - Centrifugal Pump
 - Blower/Fan
 - Extruder

Requirements:

Students should have a working knowledge of motor controls, ladder diagrams and schematics.

Over 30 Hands On Lab Projects

VFDs for Maintenance Technicians

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

Class Options:

2 Day Class

- Ladder Diagrams and Schematics for Maintenance Technicians

2 Day Class

- Motor Controls for Maintenance Technicians

2 Day Class

- Electric Motors for Maintenance Technicians

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

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.