

Motor Control Operations and Troubleshooting

Two-Day Course Outline



Ensuring Electrical Reliability and Safety

Unplanned downtime can eat away at your profits. Staying knowledgeable on motor control operations and troubleshooting techniques is critical to ensuring your systems run smoothly.

Remaining informed on the proper techniques to inspect, safely troubleshoot, and detect a problem is a crucial step to proper operations and eliminating safety hazards. Operators are required to have in-depth understanding of recognized hazards that are likely to cause serious physical harm to employees.

As you navigate systems and facilities it is imperative that operators stay up to date on the specific techniques used to classify possible risks and ensure workplace safety.

Participants who complete this course will learn about operational considerations and troubleshooting, critical requirements, safety protocols, and the practical application of their learnings.

Next Level Reliability

To learn more about ERS' Training Services, please contact us at 1 877-468-6384 or visit ERS.vertiv.com

Course Overview

This class presents a logical approach to troubleshooting electrical control systems. It provides an understanding of common motor control circuits and motor diagnostic techniques. In addition, participants who complete this course will practice diagram analysis for troubleshooting. Where possible, the types of controllers utilized in the facility will be integrated into the presentation to maximize the learning experience.

The agenda will also include a review of components, and best practices for predicting the likelihood of equipment failure and identifying problems.

Course Duration: 16 Hours.

Two Day Seminar Course Outline

Day 1

Safety

- Qualified Persons
- Manufacturers' Literature Information
- Operations and Maintenance Guidelines

Diagram Analysis

- Layout Diagram
- Devices / Symbols
- Sensing
- Diagram Types

Types of Motor Controllers

- Full Voltage
- Across the Line Voltage
- Synchronous Starters
- Medium Voltage Starters
- Programmable Alarms and Set Points

Components

- Circuit Breakers
- Fuses
- Electronic Protection
- Relays
- Time Delays
- Contactors
- Potential Transformers
- Current Transformers

Training Materials

Electrical Reliability Services (ERS) will provide any necessary supplemental materials. A "Certificate of Completion" is provided for students meeting or exceeding minimum course standards. Minimum course standards are defined as an 80% score on the written post-course examination. Upon successful completion of the assessment, you will receive 1.6 CEU credits. Our CEUs are IACET-Certified.

Day 2

Contactors Construction

- Air-Break
- Vacuum

Motor Construction

- Name Plate Information
- Protection Considerations

Operational Considerations

- Control Power
- Interlocks
- Protective Devices
- Auxiliary Relays
- Remote Controls
- Breaker Auxiliary Contacts
- PLC Fundamentals

Basic Support Requirements

- System Familiarity
- Documentation
- Test Equipment

A Focused Approach to Troubleshooting

- Interlocks
- Control