Content Community Connection

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Electric Motor Testing Training

View Course Details

COURSE DATES AND TIMES

Our 12-Hour Electric Motor Testing Training live online instructor-led course introduces students to the basics of on-line and off-line motor testing techniques.

Our course teaches students the leading cause of motor failure. Electric motors fail. That is a certainty. And unexpectded motor failures cost a company hundreds of thousands of dollars. Learn the techniques and obtain valuable information to detect motor problems prior to failure, avoiding costly downtime. This course focuses electric motor maintence professionals to achieve results from electrical motor testing that will optimize their plant and shop operations. Our comprehensive Electric Motor Testing course emphasizes basic and advanced information about electric motor testing equipment and procedures. When completed, students will have the ability to learn electric motor testing techniques that results in increased electric motor reliability. This always leads to an increase in overall plant efficiency while at the same time decreasing costly motor repairs. Students will also learn how to acquire motor test results that result in fact-based, proper motor maintenance management. Students will understand the reasons that electric motors fail and how to find problems quickly and return motors to service.

COURSE OBJECTIVE:

This course is designed to enable participants to:

- Describe various equipment used for motor testing and maintenance.
- Recognize the cause and source of electric motor problems.
- Explain how to solve existing and potential motor problems, thereby minimizing equipment disoperation and process downtime.
- Analyze types of motor loads and their energy efficiency considerations.

WHO SHOULD ATTEND

- Electrical Engineers
- Industrial, Commercial, Institutional Electrical Engineering and Maintenance Technicians
- Instrumentation and Control Engineers
- Power System Protection and Control Engineers
- Other electrical personnel involved in the maintenance industrial, commericial and institutional power systems.

STUDENTS RECEIVE

- This Course Includes Our Latest Electric Motor And VFD Handbook Volume!! (Value $20)
- **$100 Coupon** Toward Any Future Electricity Forum Event (Restrictions Apply)
- 1.2 Continuing Education Unit (CEU) Credits (12 Professional Development Hours)
- **FREE** Magazine Subscription (Value $25.00)
- Course Materials In Paper Format

Related Courses

Electric Motor Training,

Motor Control Training,

Variable Frequency Drive Basics,

VFD Training

Motors, Drives and Automation Systems

COURSE OUTLINE

Electric Motor Testing Training

DAY ONE

Basic AC Motor Theory

- electromagnetic theory
- Basic AC motor construction
- Various types of motors

Types of Electric Motors

- This will provide an overview of the different types of motors available today including Squirrel Cage Induction Motors, Synchronous Motors and Wound Rotor Induction Motors.
- The advantages of each type of motor and the performance that motor has will be discussed.
- The effects of Voltage and Frequency variations will also be discussed to show the impact each has on the motor performance.
- Speed and Torque Characteristics for each motor type will be reviewed.

Offline Static Electric Motor Testing

- Common Off Line Electrical PdM Motor Tests
- Winding Resistance
- Capacitance
- Insulation Resistance
- Polarization Index/Dielectric Absoption
- AC HiPot
- DC HiPot
- VLF HiPot
- Winding Inductance and Impedance
- Surge/Impulse
- Partial Discharge
- Core Loss

Static Motor Testing

- Insulation systems
- Failure mechanisms
- Testing methods and pass/fail criteria
- Recommended test voltages
- Test sequence overview

Static High Voltage Electric Motor Testing

- Insulation systems
- Failure modes and mechanisms
- Test methods
- ANSI/IEEE/EASA/NEMA testing standards
- Recommended test voltages/sequencing
- Analysis of results

DAY TWO

Dynamic Testing

- On- Line Electrical Motor Monitoring and System Analysis

- Common On-Line Electrical PdM Motor Tests
- Power Analysis
- Voltage Transients
- Shaft Grounding Voltage & Current
- Torque Analysis
- Current Signature Analysis

Dynamic Electric Motor Monitoring

- Machine System Overview
- Properly connecting the Explorer
- Obtaining quality data
- Power, motor, load assessment
- Miscellaneous Explorer tools

Predictive Testing

- Vibration Analysis

Electric Motor Testing Software

- Creating databases, motors and test IDs
- Data collection parameters
- Establishing and understanding pass/fail criteria
- Data interpretation

Non-Three Phase Electric Motor Testing

- DC motor testing
- Synchronous motor testing
- Wound rotor motors
- Non-rotating equipment

Review of expectations
Questions and Answers

COURSE SCHEDULE:

Both days:

Start: 10 a.m. Eastern Time
Finish: 4:30 p.m. Eastern Time

Contact us Today for a FREE quotation to deliver this course at your company’s location.

Request Quote