

# Introduction Training on Infrared Thermography, Ultrasound, Partial Discharge and De-Energized Switchgear Testing

Eaton Electrical, 130 Commonwealth Dr, Warrendale, PA 15086  
March 24-27 2025 | 4 days | 1.6 Continuing Education Units (CEUs)

IN PARTNERSHIP WITH



*Powering Business Worldwide*

This in-depth 4-day training program is designed for professionals seeking knowledge and skills on energized and de-energized electrical equipment, including infrared thermography, ultrasound and partial discharge testing as required by NFPA 70B with a strong focus on data analysis, reporting processes, and practical applications.

This course is ideal for electrical engineers, maintenance professionals, and reliability engineers responsible for the operations and maintenance of electrical distribution systems. Whether you are new to these technologies or looking to refine your expertise, this training will provide valuable insights and practical skills to enhance your capabilities in the field.



## How to Register

Scan the QR code or [click here](#) to register for this course.

INFRARED THERMOGRAPHY • ULTRASOUND • PARTIAL DISCHARGE • SWITCHGEAR TESTING



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## Course Objectives

### Comprehensive Introduction

- Overview of industry standards, including industry safety, reliability practices in compliance to NFPA 70B.
- Key concepts essential for professionals working with electrical systems.

### Infrared Thermography Technology Proficiency

- Introduction to infrared thermography (IRT) technologies.
- Detailed explanation of data analysis and reporting processes.
- Application of infrared (IR) technologies in predictive maintenance.

### Ultrasound and Partial Discharge Expertise

- Development of skills for detecting and analyzing fault conditions using ultrasound and partial discharge (PD).
- Practical applications of ultrasound and PD in electrical diagnostics.

### Exploration of Electrical Maintenance Safety Devices (EMSDs)

- In-depth understanding and application of EMSD technologies.

### NFPA 70B

- How OSHA, NFPA 70, NFPA 70E, and NFPA 70B are needed to create electrical safety.
- Overview of NFPA 70B. When does the standard apply, what are the general requirements, and what are the equipment specific requirements.

### De-Energized Testing

- An overview of insulation testing, primary circuit resistance testing, injection testing, and functional/mechanical checks.

### Switchgear Testing Plans/Requirements

- Breakers, enclosures, meters, relays, CPTs, VTs, and CTs.

### Hands-On Lab - Application of Diagnostic Technologies

- Practical sessions to apply theoretical knowledge gained during the course.
- Interpretation of equipment datasheets and accurate data input.
- System modeling and data gathering techniques.
- Examination of specific diagnostic methods including infrared thermography, ultrasound and partial discharge.
- Verification of compliance with industry standards and codes.
- Discussion of lab results and methods to improve diagnostic accuracy.

Students are required to bring their own laptops. Infrared cameras, ultrasound devices, or partial discharge devices are optional but recommended.

The training course package, including the latest version of the relevant software, will be provided for installation two weeks prior to the class.

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