



Technical Diagnostic Services Training Institute

Molded Case Circuit Breaker Maintenance 16 Hours

Who Should Attend:

Field and shop technicians, circuit breaker rebuilders, supervisors and others responsible for the testing and maintenance of low-voltage molded-case and drawout air circuit breakers.

Course Description:

Students will learn safe and proper maintenance and testing procedures on a variety of circuit breakers, including Seimens, ABB, Westinghouse, GE, Square-D, Federal Pacific, and ITE. Students will disassemble backboard assemblies, perform maintenance, reassemble and adjust circuit breakers. Overcurrent device testing will be performed on low-voltage circuit breakers, along with other standard tests. All testing and maintenance is done in accordance with NETA, ANSI and NEMA standards.

Outline:

- I. Introduction
 - a. Student Instructions
 - b. Pre-Test
- II. Molded-Case Circuit Breakers
 - a. Types and Components
 - b. Inspections
 - c. Maintenance
 - d. Testing
 - e. Interpreting Test Results
- III. Low-Voltage Circuit Breaker Maintenance
 - a. Circuit Breaker Fundamentals
 - i. Definitions
 - ii. Nameplate Data
 - iii. Circuit Breaker Components
 - b. Circuit Breaker Cubicle Service
 - i. Circuit Breaker Removal
 - ii. Circuit Breaker Cubicle Service
 - c. Circuit Breaker Service
 - i. Circuit Breaker Service
 - ii. Circuit Breaker Adjustments
 - iii. Circuit Breaker Testing
 - iv. Restoring the Circuit Breaker to Service
- d. Overcurrent Trip Devices
 - i. Series or direct-acting trip devices
 - ii. Overcurrent trip device functions
 - iii. Solid-state trip devices
 - iv. Setting overcurrent trip devices
 - v. Time-current characteristic curves
- IV. Testing Low-Voltage Circuit Breakers
 - a. Micro-ohmmeter
 - b. Insulation Resistance
 - c. Overpotential
 - d. Overcurrent device

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