



# 239

## MOTOR MANAGEMENT RELAY

TRNG-239

### WHAT WILL I LEARN FROM THIS COURSE?

The 239 Motor Management course begins with a review of basic motor terminology and motor theory. The class then examines GE Multilin's Thermal Model in detail including step-by-step guidance through settings calculations using real world motor data. Through a combination of lectures and practical Lab exercises, the class will learn how to correctly configure, monitor and troubleshoot the 239.

### PREREQUISITES

- Basic understanding of electrical circuits
- The Motor Protection Interactive Learning CD would be an asset

### COURSE DURATION

1 Day

### WHO SHOULD ATTEND?

Plant electrical personnel who are responsible for the installation, testing and maintenance of GE Multilin 239 Relays will benefit most from this course.

### TUITION

\$600 US\*

### CEU CREDITS OFFERED

0.7 Credits

### AGENDA

This class includes fully equipped Hands-On Lab exercises.

#### Day 1

- Introduction
- Motor theory
- Current Transformer selection
- Motor Thermal Modeling
- Additional protective elements
  - Short Circuit protection
  - Ground Fault detection
  - Single-phase protection
  - Motor status detection
  - Mechanical Jam detection
  - Loss of Load detection
  - Acceleration timer
  - Starts per hour
  - Time between starts
- Motor settings calculation examples
  - Specifications
  - Hardware overview
  - Mechanical installation and wiring
  - EnerVista setup software Hands-On Lab
    - Establishing communication to the relay
    - Loading and saving settings files
  - Setpoints
    - 239 Setup
    - System Setup
    - Digital Inputs and Outputs
    - Thermal Model
    - Current elements
    - Motor starting
    - RTD Temperature
    - Monitoring
- Fault simulation Labs
  - Thermal Overload and Emergency Restart
  - Instantaneous Overcurrent
  - Ground Fault
  - Mechanical Jam and Loss of Load
  - Single Phasing
  - Undervoltage
  - Overvoltage
- Actual Values
  - Status, Metering and Trending
  - Event Recorder and Waveform capture
- Keypad Labs
- Firmware updates
- Data communications