



AUTOMATION

COURSE EMS230

Motor Control & Troubleshooting

This course provides information on the concepts associated with systematic troubleshooting of instrumentation systems. Participants use practical application of troubleshooting techniques in exercise scenarios.

To enhance and facilitate the students' learning experiences, the following materials are provided as part of the course package:

- Student Manual includes the key concepts, definitions, examples, and activities presented in this course
- Lab Guide includes the hands-on exercises

Those in attendance will have the opportunity to combine and practice groups of key skills by completing multiple integrated practices during the course.

**Monday, March 23 -
Friday, March 27**
8 AM - 5 PM

**SMC Sedalia
1616 W Main St
Sedalia, MO**

Cost: \$3,503
Includes Lunch



**Authorized
Service Provider**

A ROCKWELL AUTOMATION PARTNER

To register, please contact Ashli Anderson at aanderson@smcelectric.com

Course Overview

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- List and explain a systematic approach to troubleshooting electrical circuits
- List and describe the purpose and application of various motor control components
- Explain methods for inspecting electrical contacts
- Describe the basic methods of starting a three-phase AC motor using full or reduced voltage
- Describe the basic operation of a three-phase AC motor
- Describe methods for troubleshooting AC motors
- Apply a systematic approach to troubleshooting motor control circuits
- Design and construct motor control circuits
- Implement proper motor control troubleshooting techniques
- Analyze and evaluate faults to determine failed motor control components

Agenda

Day 1

- Explaining troubleshooting philosophy
- Applying basic troubleshooting methods
- Using the 7-step troubleshooting method
- Distinguishing contactors, switches and contacts
- Lab exercises

Day 2

- Applying motor controls fundamentals
- Determining motor controls diagnosis and repair
- Lab exercises

Day 3

- Controlling AC motors
- Inspecting rotating AC machinery
- Using customized troubleshooting techniques
- Lab exercises

Day 4

- Troubleshooting motor controls circuits
- Troubleshooting intermittent failures
- Lab exercises

Day 5

- Applying root cause analysis
- Lab exercises
- Review
- Written exam

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