

Craft Skills

Motor Control and Troubleshooting Course Description

COURSE AGENDA

Day One

- Explaining Troubleshooting Philosophy
- Applying Basic Troubleshooting Methods
- Using the 7 Step Troubleshooting Method
- Distinguishing Contactors, Switches And Contacts
- Lab Exercises

Day Two

- Applying Motor Controls Fundamentals
- Determining Motor Controls Diagnosis And Repair
- Lab Exercises

Day Three

- Controlling AC Motors
- Inspecting Rotating Ac Machinery
- Using Customized Troubleshooting Techniques
- Lab Exercises

Day Four

- Troubleshooting Motor Controls Circuits
- Troubleshooting Intermittent Failures
- Lab Exercises

Day Five

- Applying Root Cause Analysis
- Lab Exercises
- Review
- Written Exam



COURSE NUMBER: EMS-230

Course Purpose

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

Upon completion of this course, you should be able to:

- 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.

Who Should Attend

- This course is designed for electrical maintenance technicians.

Prerequisites

To successfully complete this course, the following prerequisites are required:

- Understanding of electrical theory and electrical systems

Technology Requirements

All technology is provided for student use in the classroom by Rockwell Automation. It is not necessary for students to bring any technology with them when attending this course.

Student Materials

To enhance and facilitate your learning experience, the following materials are provided as part of the course package.

- *Student Manual*, which contains the key concepts, definitions, and examples presented in the course
- *Lab Guide* which includes the hands-on exercises.

Hands-On Practice

Throughout this course, you will have the opportunity to practice the skills you have learned through a variety of hands-on exercises. These exercises focus on the skills introduced in each lesson.

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

Next Learning Level

Once you have mastered the skills covered in this course, you may want to attend specific training, such as:

- *Basic Programmable Logic Controllers*

Course Length

- *This is a 5 day course.*

Course Number

- *The course code is EMS-230*

To Register

To register for this or any other Rockwell Automation training course, contact your local authorized Allen-Bradley Distributor or your local Sales/Support office for a complete listing of courses, descriptions, prices, and schedules.

You can also access course information via the Web at

<http://www.rockwellautomation.com/training>

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