

Motion Control

Motion Control Fundamentals Course Description

COURSE AGENDA

Day 1

- Identifying Servo Motion Elements
- Tracing the Power Supply Circuit
- Creating a Motion Profile
- Identifying and Applying a Reference

Day 2

- Identifying Motion Drive Elements
- Tracing Signal Flow Through the Drive Control Module
- Identifying Motor Types and Components
- Identifying Feedback Devices
- Identifying and Scaling Loads



COURSE NUMBER: CCN130

Course Purpose

Upon completion of this course, you should be able to demonstrate fundamental motion control concepts common to all Rockwell Automation motion control systems.

This course is designed to provide you with an understanding of the concepts, terminology, functionality and applications of motion control. In addition, you will also learn how motion control applications function using the concepts and principles discussed in each lesson.

This course will allow you to establish the strong essential foundation you need before learning the skills necessary to maintain and program motion control systems.

This course does not address motion control system design or specific motion control software programming. If you are seeking training in these areas, you should enroll in the relevant Rockwell Automation training courses, making sure you have fulfilled the prerequisites for those courses prior to enrollment.

Who Should Attend

Individuals who need to learn basic motion control concepts for their job or as a prerequisite for attending other motion control courses should attend this course.

Prerequisites

There are no specific prerequisites required for attending this class. However, the following would be helpful:

- A background in basic electricity, electronics, and computer concepts
- A basic knowledge of controllers operation

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 includes the key concepts, definitions, and examples presented in this course.
- *Lab Book*, which provides learning activities through practice and hands-on exercises. Solutions are included after each exercise for immediate feedback.
- *Motion Control Fundamentals Procedures Guide*, which provides the steps required to work with a motion project in the Studio 5000® environment.
- The *Motion Control Documentation Reference Guide*, which contains several relevant technical publications. This searchable, electronic resource contains the most frequently referenced programming information and is a quick and efficient on-the-job resource. The Documentation Reference Guide includes the *Logix5000 Controllers Motion Instructions* manual, which provides the details of the motion instructions available for Logix5000™ controllers.

Hands-On Practice

Hands-on practice is an integral part of learning and this course offers extensive hands-on opportunities. In this course, you will use a workstation containing real and simulated devices to practice the tasks involved in working with a motion control application.

Next Learning Level

Once you have mastered the fundamental skills covered in this course, you will have the knowledge and skills necessary to attend the next level of motion control training. In particular, this course will benefit those students enrolling in the following courses:

- *Kinetix 6000 Troubleshooting and Project Interpretation* (Course No. CCN200)
- *Studio 5000 Logix Designer Level 4: Kinetix 6000 (SERCOS) Programming* (Course No. CCN145)
- *Studio 5000 Logix Designer Level 4: Kinetix 6500 (CIP) Programming* (Course No. CCN144)

Course Length

This is a two-day course.

Course Number

The course number is CCN130.

IACET CEUs

CEUs Awarded: 1.4



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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Power, Control and Information Solutions

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