

Motion Control

Motion Control Fundamentals Course Description

COURSE AGENDA

Day 1

- Defining Motion Control
- Identifying Motion Control System Components and Functions
- Applying Basic Motion Control Concepts
- Identifying the Components of a Digital Servo Motion Controller
- Identifying the Functionality of Servo Drives

Day 2

- Identifying the Functionality of AC and DC Servo Motors
- Identifying the Functionality of Feedback Devices
- Identifying the Functionality of the Software Servo Loop
- Applying Motion Profiles
- Applying Electronic Gearing and Camming Profiles
- Fundamentals of Motion Control: Integrated Practice



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.

Hands-On Practice

Throughout the course, you will have the opportunity to practice skills you have learned through a variety of hands-on exercises with Rockwell Automation motion control hardware. You will also have the chance to combine and practice several key skills by completing an integrated practice.

Student Materials

To enhance and facilitate your learning experience, the following materials are provided with the course package:

- *Student Manual*, which contains the topical outlines and exercises. You will use this manual to follow presentations, take notes, and complete the exercises.
- *Motion Control Glossary*, which provides an alphabetized listing of common terminology and definitions as it relates to motion control. This glossary will help you become more familiar with technical terms and concepts needed to understand motion control.

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 Maintenance and Troubleshooting* (Course No. CCN200)
- *RSLogix 5000 Level 4: Motion Programming Using Ladder Logic* (Course No. CCN142)

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>

www.rockwellautomation.com

Power, Control and Information Solutions

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation SA/NV, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846