ControlLogix®/RSLogix™ 5000

RSLogix™ 5000 Level 4: Motion Programming Using Ladder Logic Course Description

COURSE AGENDA

Day 1

- Starting a Logix5000 Motion Control Application
- Adding Hardware

Day 2

- Testing and Tuning Axes
- Programming Basic Motion Routines
- Programming a Fault Routine

Day 3

- Programming an Electronic Gearing Routine
- Programming an Electronic Camming Routine
- Programming a Virtual Axis
- Preview of the Drives and Motion Accelerator Toolkit

COURSE NUMBER: CCN142

Course Purpose

This course is intended to provide you with the skills to configure and program Logix5000 applications specifically for integrated motion control functionality using ladder logic and SERCOS motion control technology.

This course builds upon the skills gained in the *RSLogix 5000™ Level 3: Project Development* (CCP143) course. Upon completion of this course, you should be able to apply the Logix5000 architecture to a multi-axis motion control system. You should also develop programming skills that incorporate other components in a Logix5000 system, such as adding system modules, sharing tasks between multiple controllers, programming ladder logic, and using digital I/O.

Because all Logix5000 products share common features and a common operating system, you will be able to apply the configuring and programming motion control skills you learn in this course to any of the Logix5000 controllers that are capable of motion control.

Who Should Attend

Individuals who need to configure and program Logix5000 motion control systems should attend this course. In addition, only students who are already familiar with Logix5000 systems and general motion control should attend this course.

Prerequisites

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

- Ability to perform basic Microsoft Windows® tasks
- Completion of *the Motion Control Fundamentals* course (Course No. CCN130) or equivalent knowledge of or experience with drives, feedback devices, and velocity and position loop systems
- Completion of *the RSLogix 5000™ Level 3: Project Development* course (Course No. CCP143) or equivalent experience
- Experience with entering and debugging ladder logic

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 and includes the hands-on exercises.
- *RSLogix5000 and Logix5000 Motion Procedures Guide*, which provides all the steps required to complete common Logix5000 tasks, including the tasks in the exercises. By following the procedures in this job aid, you can immediately apply what is learned in the course to your own job.
- The *Logix5000 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. Throughout the exercises, you will use a workstation containing real and simulated devices to practice the tasks involved in programming a motion control application.

After configuring a project that contains the required hardware, you will program a variety of motion routines, including gearing and virtual axis routines. Upon completion of the course, you will have programmed a complete motion control project that runs an actual application using both analog servo axes and SERCOS servo axes.

Next Learning Level

Once you have mastered the skills covered in this course, you will be prepared to attend other Rockwell Automation training courses that will enable you to optimize your motion control application based on the equipment in their plant. One example of such a course is the *RSLogix5000 Level 5: Advanced Motion Programming* course (CCN190-LD).

Course Length

This is a three-day course.

Course Number

The course number is CCN142.

IACET CEUs

CEUs Awarded: 2.1

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

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