ControlLogix/Studio 5000 Logix Designer

Studio 5000 Logix Designer Level 5: Advanced Motion Programming

Rockwell Automation · **Allen-Bradley** by ROCKWELL AUTOMATION

Course Number

CCN190-LD

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, including SERCOS motion control technology.

Building upon the skills gained in Studio 5000 Logix Designer Level 3: Project Development and Studio 5000 Logix Designer Level 4: Kinetix 6000 (SERCOS) Programming, you will learn how to apply advanced programming skills including tuning with Motion Analyzer software, advanced camming techniques, coordinated motion, and add-on instructions for motion applications.

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 learned in this course to any of the Logix5000 controllers that are capable of motion control.

COURSE AGENDA

DAY 1

- Tuning a Servo Axis with Motion Analyzer Software
- Programming Event Driven Tasks
- Programming Output Cam Instructions
- Calculating a Cam Profile

DAY 2

- Programming Coordinate Instructions
- Programming Motion Add-On Instructions
- Developing a Motion Control Project Using the Power Programming State Model
- Programming Coordinated Move Transform Instructions in a Pick and Place Application

WHO SHOULD ATTEND

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

PREREQUISITES

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

- Ability to perform basic Microsoft Windows tasks
- Completion of the Studio 5000 Logix Designer Level 3: Project Development course (Course No. CCP143) or equivalent knowledge of or experience with basic ladder logic programming
- Completion of the Studio 5000 Logix Designer Level 4: Kinetix 6000 (SERCOS) Programming (Course No. CCN145) or equivalent experience

STUDENT MATERIALS

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

- Student Manual, which contains the topical outlines andexercises. You will use this manual to follow presentations,take notes, and work through the exercises.
- Studio 5000 Logix Designer and Logix5000 Motion Procedures Guide, which provides all of the steps required tocomplete common Logix 5000 tasks, including the tasks inthe exercises. By following the procedures in this job aid,you can immediately apply what is learned in the courseto your own job.

HANDS-ON PRACTICE

Throughout the course, you will have the opportunity to practice skills you have learned through a variety of hands-on exercises. To gain real-world motion programming experience, you will be given specifications to program advanced motion concepts for an application. These functional specifications will be the basis for all hands-on exercises in this course.

After completing all exercises, students will be able to apply advanced motion programming techniques that meet the requirements of several different functional specifications.

As you develop the projects, you will be given the opportunity to test the ladder logic using hardware workstations with devices that represent the application inputs and outputs and servo motors that represent the motion axes. This tuning, programming, and testing experience can be then transferred to your own job responsibilities.

COURSE LENGTH

This is a two-day course.

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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