

Studio 5000 Logix Designer Level 4: Kinetix 6500 (CIP) Programming

OEM: Rockwell Automation • Duration: 4 Days (32 hrs) • Code: CCN144

COURSE MODULES & TOPICS

Objectives

- Create a Studio 5000 Logix Designer project for a CIP motion application
- Add drives and configure CIP motion axes
- Test CIP motion hardware
- Autotune CIP motion axes
- Plan a motion project
- Create user-defined data types, axis-level program shell, and axis-level tags
- Program the: Axis-level dispatch and power up routines
- Axis-level command routine
- Axis-level waiting routine
- Aborting, clearing, stopping, resetting, and starting routine
- Replicate the axis program
- Replicate an application-level program and the execute routines
- Add a virtual axis
- Program electronic gearing and camming

Prerequisites

- Completion of the Motion Control Fundamentals course (CCN130) or equivalent knowledge of Kinetix® 6500 drives, feedback devices, and servo motion systems
- Completion of the Studio 5000 Logix Designer Level 3: Project Development course (CCP143) or equivalent experience

Student Materials

- Student Manual includes the key concepts, definitions, examples, and activities presented in this course
- Lab Book provides learning activities and hands-on practice. Solutions are included after each exercise for immediate feedback
- Studio 5000 Logix Designer and Logix5000 Motion Control Procedures Guide provides the steps required to complete common motion-related tasks within a Logix Designer project, as well as basic project organization tasks

Next Level Learning

- Studio 5000 Logix Designer Level 5: Advanced Motion Programming course (CCN190-LD)

Course Agenda

Day 1

- Creating a Studio 5000 Logix Designer Project for Integrated Motion on an EtherNet/IP Network
- Adding Drives and Configuring Axes for Integrated Motion on an EtherNet/IP Network
- Testing Hardware for Integrated Motion on an EtherNet/IP Network
- Tuning Axes for Integrated Motion on an EtherNet/IP Network

Day 2

- Programming MSO and MSF Instructions
- Programming MAH Instructions
- Programming MAM Instructions
- Programming MAJ Instructions

Day 3

- Programming MAS and MASD Instructions
- Programming MAFR and MASR Instructions
- Programming MCD Instructions
- Merging Motion Instructions

Day 4

- Adding a Virtual Axis
- Programming Group Motion Instructions
- Programming Electronic Gearing
- Programming Electronic Position Camming
- Programming Electronic Time Camming