

# ControlLogix/ Studio 5000

Kinetix 6000 Troubleshooting and  
Project Interpretation



## Course Number

CCN200

## Course Purpose

Upon completion of this course, you will be able to apply maintenance and troubleshooting techniques to diagnose and correct common problems that may occur with a Kinetix® 6000 system.

During class, you will practice operating and troubleshooting the system through hands-on exercises using workstations and the Studio 5000 Logix Designer® application.

Building upon the skills developed in the Fundamentals of Motion Control (CCN130) course, you will develop skills to help maintain and troubleshoot a multi-axis motion control system. You will practice identifying faults related to hardware and software by employing methods such as viewing fault code tables, interpreting system LEDs, and working with other status indicators.

## COURSE AGENDA

### DAY 1

- Locating Kinetix 6000 Components
- Checking Kinetix 6000 Connections
- Interpreting Kinetix 6000 Indicators
- Analyzing Fault Codes in a Kinetix 6000 System
- Interpreting Motion State Instructions in a Studio 5000 Logix Designer Project

### DAY 2

- Interpreting Motion Move Instructions in a Studio 5000 Logix Designer Project
- Integrated Practice: Troubleshooting a Kinetix 6000 System
- Testing SERCOS Hardware
- Tuning SERCOS Axes
- Replacing a Kinetix 6000 Drive

## WHO SHOULD ATTEND

Individuals who need to maintain and troubleshoot Kinetix 6000 motion control systems should attend this course.

## PREREQUISITES

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

- 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 *Studio 5000 Logix Designer Level 1: ControlLogix System Fundamentals* course (Course No. CCP146) or equivalent knowledge of or experience with the ControlLogix® platform and basic ladder logic.

## STUDENT MATERIALS

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

- 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.
- Kinetix 6000 Multi-Axis Servo Drives User Manual
  - Provides detailed instructions for mounting, wiring, and troubleshooting your Kinetix 6000 drives
- Studio 5000 Logix Designer and Logix5000 Motion Control Procedures Guide
  - Provides the procedures for performing motion control tasks in a Logix5000™ system using Logix Designer and RSLinx® Classic software.

## HANDS-ON PRACTICE

Throughout this course, you will have the opportunity to practice the skills you have learned through a variety of hands-on exercises using ABT-TD20941 and ABT-TDCLX3 workstations. Exercises focus on the skills introduced in each lesson.

You will use the Kinetix and ControlLogix workstations, containing real and simulated devices, to practice the tasks and concepts involved in maintaining and troubleshooting a Kinetix 6000 system. After learning maintenance and troubleshooting techniques, you will learn how to interpret Logix Designer projects for motion applications, understand fault routines, and test and tune an updated system.

## NEXT LEARNING LEVEL

Once you have an understanding of the topics and skills covered in this course, you may want to attend specific safety training such as:

- For motion programming: *Studio 5000 Logix Designer Level 4: Kinetix 6000 (SERCOS) Programming* (Course No. CCN145)
- For troubleshooting a ControlLogix system: *Studio 5000 Logix Designer Level 2: ControlLogix Maintenance and Troubleshooting* (Course No. CCP153)

## 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>

To be respectful of the environment, Rockwell Automation is transitioning some of its training courses to a paperless format. Students are asked to complete downloads and bring personal devices to these classes. A full list of digital/paperless courses is currently available through your local distributor.

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