

Studio 5000 Logix Designer Level 1: ControlLogix Fundamentals and Troubleshooting

OEM: Rockwell Automation • Duration: 4.5 Days (36 hrs) • Code: CCP299

COURSE MODULES & TOPICS

Course Purpose

- Learning basic concepts and terminology used with: ControlLogix system hardware
- Studio 5000 Logix Designer® application
- Practicing a systematic strategy for diagnosing and troubleshooting problems: Configuration issues
- Electrical noise
- Faulty/malfunctioning field devices
- Controller I/O, or other hardware issues
- Performing hands-on exercises

Objectives

- Locate CompactLogix system components
- Navigate through the Logix Designer application
- Connect a computer to a communications network
- Download and go online
- Locate I/O tags and devices
- Interpret Logix Designer project organization and execution
- Interpret ladder logic structure
- Locate and edit tag values
- Interpret bit and frequently used instructions
- Interpret arrays
- Interpret tags of user defined data types
- Search for project components
- Force I/O and toggle bits
- Troubleshoot digital I/O, analog I/O, remote I/O, controller, power supply, and noise related problems
- Update Logix5000 firmware
- Analyze and troubleshoot a system using a trend chart
- Edit ladder logic online
- Manage Logix Designer project files
- Document and print components

Prerequisites

- Ability to perform basic Microsoft Windows tasks
- Previous experience with common industrial control system concepts

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
- Logix5000 System Glossary contains terms and definitions specific to Logix5000 systems and defines key Logix5000 systems terminology
- Studio 5000 Logix Designer and Logix5000 Procedures Guide provides the steps required to complete basic tasks that are common to all Logix5000 hardware platforms
- ControlLogix Troubleshooting Guide contains a systematic approach to diagnosing and troubleshooting common ControlLogix system problems

Course Agenda

- Locating ControlLogix Components
- Navigating through the Studio 5000 Logix Designer Application
- Connecting a Computer to a Communications Network
- Downloading and Going Online
- Locating I/O Tags and Devices
- Interpreting Studio 5000 Logix Designer Project Organization and Execution
- Interpreting Ladder Logic Structure
- Locating and Editing Tag Values
- Interpreting Bit Instructions
- Interpreting Frequently Used Instructions
- Interpreting Arrays
- Interpreting Tags of User-Defined Data Types
- Searching for Project Components
- Integrated Practice - Interpreting a Basic Project
- Forcing I/O and Toggling Bits
- Troubleshooting Digital I/O Problems
- Troubleshooting Analog I/O Problems
- Troubleshooting Remote I/O Problems
- Updating Logix5000 Firmware
- Troubleshooting Controller Problems
- Troubleshooting Power Supply Problems
- Analyzing and Troubleshooting a System Using a Trend Chart
- Integrated Practice-Troubleshooting Basic Projects
- Editing Ladder Logic Online
- Managing Studio 5000 Logix Designer Project Files
- Documenting and Printing Components

- Troubleshooting Noise-Related Problems