Studio 5000 Logix Designer Level 1: CompactLogix Fundamentals and Troubleshooting

OEM: Rockwell Automation • Duration: 4.5 Days (36 hrs) • Code: CCP298

COURSE MODULES & TOPICS

Course Purpose

- Learning basic concepts and terminology used with: CompactLogix system hardware
- Studio 5000 Logix Designer® application
- Practicing a systematic strategy for diagnosing and troubleshooting problems: Faulty/malfunctioning field devices
- Controller, I/O, or other hardware issues
- Electrical Noise
- Configuration 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, banked local I/O, distributed 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

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
- Studio 5000 Logix Designer and Logix5000 Procedures Guide provides the steps required to complete basic software tasks common to all Logix5000 controllers

Course Agenda

- Locating CompactLogix Systems Components
- Navigating through the Logix Designer Application
- Connecting a Computer to a Communications Network
- Downloading and Going Online
- Locating I/O Tags and Devices
- Interpreting 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 Banked Local I/O and Distributed 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 Logix Designer Project Files
- Documenting and Printing Components
- Troubleshooting Noise-Related Problems