ControlLogix/Studio 5000

Studio 5000 Logix Designer Level 1:
ControlLogix Fundamentals
and Troubleshooting

Rockwell Automation

Allen-Bradley
by ROCKWELL AUTOMATION

Course Number

CCP299

Course Purpose

Upon completion of this course, you should be able to troubleshoot a previously operational ControlLogix® system and restore normal operation.

You will have the opportunity to develop and practice these skills by:

- 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

All Logix5000™ systems use the same control engine; therefore, tasks are similar. You will see applicable references for other systems

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

WHO SHOULD ATTEND

This course is intended for individuals who need to maintain and troubleshoot a ControlLogix system – but have no current working experience with ControlLogix systems.

Curriculum Note: This course contains many of the lessons in courses CCP146 and CCP153 – in a consolidated four and a half-day format. Do not take all three courses.

PREREQUISITES

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

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

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.
- 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

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 an ABT-TDCLX3-B ControlLogix workstation. Exercises focus on the skills introduced in each lesson.

Integrated practices combine and practice several key skills at once.

COURSE LENGTH

This is a four-and-a-half-day course.

IACET CEUS

Rockwell Automation is authorized by IACET to offer 3.2 CEUs for this program.

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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