Networks

DeviceNet and RSNetWorx
Configuration and Troubleshooting

Rockwell Automation | Allen-Bradley by ROCKWELL AUTOMATION

Course Number

CCP164

Course Purpose

This course prepares students to successfully design and configure an efficient DeviceNet network using components for the ControlLogix® platform. To meet this objective, students begin by designing a cable system, and then configure a driver, a 1756-DNB scanner module for ControlLogix, and network devices.

This course also prepares students to troubleshoot a malfunctioning DeviceNet network and return it to normal operation with minimum downtime. Students will first verify proper network installation and then perform both hardware and software-based tasks used to isolate DeviceNet problems. Students will also practice the tasks necessary to add and replace network devices.

The specific hardware components used in the course include DeviceNet round and flat cable, taps, connectors, power supplies, scanner modules, and DeviceNet-compatible devices such as photoelectric sensors, operator interfaces, packaged I/O, and drives. The software components include RSNetWorx™ for DeviceNet, RSLinx®, and RSLogix 5000® software (for ControlLogix systems).

Note: The focus of this course is a DeviceNet network in a ControlLogix system. Please ask for a quote if you need training for DeviceNet and SLC™ systems.

COURSE AGENDA

DAY 1

- Identifying DeviceNet Network Components
- Designing a DeviceNet Cable System
- Creating a DeviceNet Network Configuration
- Commissioning Nodes on a DeviceNet Network
- Configuring a 1756-DNB DeviceNet Scanner Module for a ControlLogix systems

DAY 2

- Mapping Inputs and Outputs to 1756-DNB Scanner Module on a DeviceNet Network (ControlLogix)
- Managing DeviceNet EDS Files
- Configuring the Automatic Device Recovery (ADR) Feature for a DeviceNet Network
- Communicating on a DeviceNet Network Using Explicit Messaging with the ControlLogix platform
- Integrated Practice: Modifying a DeviceNet Network Configuration

DAY 3

- Troubleshooting a DeviceNet Network Using RSNetWorx for DeviceNet Software
- Troubleshooting Using DeviceNet and ControlLogix Hardware Indicators
- Troubleshooting a DeviceNet Network Using RSLogix 5000 Software
- Troubleshooting Duplicate Node Addresses on a DeviceNet Network
- Integrated Practice: Restoring a Malfunctioning DeviceNet

WHO SHOULD ATTEND

Individuals responsible for designing and configuring a new DeviceNet network in a ControlLogix system should attend this course. Individuals responsible for isolating and correcting problems or performing basic maintenance on a DeviceNet network in a ControlLogix system should also attend this course.

PREREQUISITES

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

- Experience operating a personal computer within a Microsoft Windows environment
- *Completion of the RSLogix 5000 Level 1: ControlLogix System Fundamentals* (Course No. CCP146) course or knowledge of common ControlLogix terminology and the ability to program and interpret basic ladder logic instructions in RSLogix 5000 software

STUDENT MATERIALS

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

- Student Manual
  - Contains the topical outlines and exercises
  - Used to follow presentations, take notes, and work through exercises
- DeviceNet and RSNetWorx Troubleshooting Guide
  - Contains easy-to-use flowcharts and graphics
  - Covers five DeviceNet scanner modules
  - Helps complete troubleshooting tasks in class and on the plant floor
- DeviceNet and RSNetWorx Procedures Guide
  - Provides step-by-step procedures for configuring, maintaining, and troubleshooting a DeviceNet network
  - Covers five DeviceNet scanner modules
  - Helps complete troubleshooting tasks in class and on the plant floor

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. Students will use RSNetWorx for DeviceNet software and an ABT-TDDNET2 DeviceNet workstation that contains a scanner module for ControlLogix chassis as well as devices commonly used on DeviceNet networks. Students will practice the major tasks involved in designing, configuring, and troubleshooting a DeviceNet network. Students will complete the course combining the tasks learned in individual lessons to modify the network they have designed and configured in class.

NEXT LEARNING LEVEL

Once students have mastered the skills covered in this course, they may be interested in attending other network courses, such as:

- ControlNet and RSNetWorx Design and Troubleshooting (Course No. CCP173)
- EtherNet/IP Design & Troubleshooting (Course No. CCP178)

COURSE LENGTH

This is a three-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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