

# COURSE DESCRIPTION

## DeviceNet™ Networks

### DeviceNet™ and RSNetWorx™ Configuration and Troubleshooting

#### COURSE AGENDA

##### Day 1

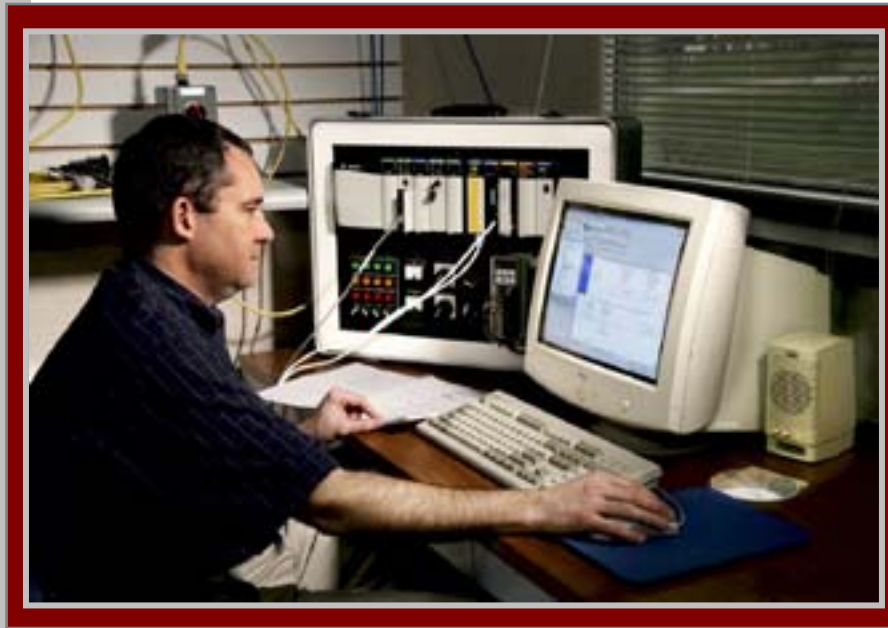
- Identifying Network Components
- Designing a DeviceNet Cable System
- Creating a DeviceNet Network Configuration
- Commissioning Nodes on a DeviceNet Network
- Configuring a 1756-DNB DeviceNet Scanner Module

##### Day 2

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

##### Day 3

- Troubleshooting a Network Using RSNetWorx for DeviceNet Software
- Troubleshooting a Network Using Hardware Indicators for the ControlLogix platform
- Troubleshooting a Network Using RSLogix 5000 Software
- Troubleshooting Duplicate Node Addresses on a Network
- Integrated Practice: Restoring a Malfunctioning Network to Normal Operation



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 scanner module, 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.

#### *Who Should Attend*

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

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**Rockwell  
Automation**

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## DeviceNet™ Networks

### **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* (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 each student's learning experience, the following materials are provided as part of the course package:

- *Student Manual*, which contains the key concepts, definitions, and examples presented in the course and includes the hands-on exercises.
- *DeviceNet and RSNetWorx Troubleshooting Guide*, which contains easy-to-use flowcharts and graphics to help students complete the troubleshooting tasks presented in class. The guide covers five DeviceNet scanner modules and is also an ideal resource for most troubleshooting situations in the plant environment.
- *DeviceNet and RSNetWorx Procedures Guide*, which contains clear and concise step-by-step procedures for performing the tasks addressed in class, as well as other tasks associated with maintaining and troubleshooting a DeviceNet network.
- *DeviceNet Documentation Reference Guide*, which contains excerpts from several different technical publications.

### **Hands-On Practice**

Hands-on practice is a necessary part of learning and this course offers extensive hands-on opportunities. Using RSNetWorx for DeviceNet software and a workstation that contains a selection of scanner modules and devices most often 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 Configuration* (CCP170)
- *ControlNet and RSNetWorx Maintenance & Troubleshooting* (CCP172)
- *EtherNet/IP Design & Configuration* (CCP174)

### **Course Length**

This is a three-day course.

### **Course Number**

The course number is CCP164.

### **IACET CEUs**

CEUs Awarded: 2.1



### **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>

[www.rockwellautomation.com](http://www.rockwellautomation.com)

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