

Education Services



Training to Fit Your Needs

We invite you to attend one of our Emerson Automation and Controls Product Training Courses. These courses use lecture and hands-on workshops to teach students to properly install, configure, program, troubleshoot, and maintain a variety of products.

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Resources



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ENSURE THAT THE TIME YOU INVEST IN TRAINING LEADS TO MEANINGFUL PROGRESS AND REAL RESULTS.

Emerson certified trainers understand your industry, and bring our deep expertise into the classroom. With ready access to the collective Emerson knowledge and talent pool, your local trainer can provide a precise answer to your most complex questions.

Emerson certified trainers have the following qualifications:

Experienced with field expertise in each specific Emerson Automation and Control product

Educated through rigorous technology coursework and certification processes

Trained on Emerson Automation and Control products and trained in adult learning techniques

Education Services

Controller Maintenance - Logic Developer PLC - 7700

Course Description

The Controller Maintenance - Logic Developer PLC course features the PACSystems RX3i Controller to provide the student with the skills necessary to troubleshoot and repair faults in Emerson Controllers. The class is taught using Logic Developer PLC software, a component of PAC Machine Edition.

Who Should Attend?

This course is intended for anyone who will be troubleshooting control systems using PAC Logic Developer PLC software. It is designed for electrical technicians, electricians, and/or engineers beginning to work with Logic Developer PLC, who will be tasked with modifying and maintaining PLC programs and hardware.

Are There Any Prerequisites?

Participants should be comfortable operating in a Microsoft Windows environment. Participants should have a basic understanding of electrical/control fundamentals.

Training Details

- Duration: 24 Hours
- Delivery: Classroom, Onsite, Virtual
- Part #: 7700/7700V
- Suggested Class Size: 10 Students
- CEUs: 2.4

Topics

- Control System Fundamentals
- Controller Hardware Overview
- Operating PAC Logic Developer PLC
- Configuring Controller and IO
- Working with Controllers
- Working with Variables
- Introduction to Ladder Diagram (LD) Programming
- Monitor Application Variables
- Monitor Controller Without Original Project
- Modify Existing Program
- Controller Equality Status
- Manage Controller Forces
- Application Troubleshooting
- Controller and IO Faults



Education Services

Course Topics

Control System Fundamentals

- Introduction to Controller application components and Logic Structure
- Basic Controller Variables, Data Types, and Numbering Systems
- Understanding the Controller Scan

Controller Hardware Overview

- Basic controller system hardware components
- Find Controller Information using Emerson websites

Operating PAC Machine Edition/Machine Edition Options

- Orientation to the Machine Edition programming environment and its tools
- Machine Edition “Best-Kept Secrets”
- Work with Projects and Targets
- Key Machine Edition Options
- Resetting Options to Default Values

Controller Hardware Overview/Configuring Controller & IO

- Basic Controller Components
- Configure the Controller, IO, and Option Modules
- Understand Hardware Configuration Status indicators
- Assign Reference Addresses to I/O Modules
- Use the Hardware Reference View
- Import and Export Hardware Configuration

Working with Controllers

- Communications over Serial and Ethernet connections
- Validate a Machine Edition Project
- Download to and Upload from a Controller
- Verify Information between a Project and a Controller
- Work with Fault Tables
- View Controller Status information
- Using the PacsAnalyzer

Ladder Diagram Basics

- Ladder Diagram programming basic operation
- Become familiar with the LD Editor layout and operation
- Review the basic LD logic elements, such as contacts, coils, counters, timers, and relational operators
- Learn how to monitor LD logic executing in the Controller

PAC Machine Edition Toolchest

- Navigating through the Toolchest
- Create and share Toolchest Drawers
- Save logic to a Toolchest drawer
- Use Toolchest logic in application

Online Monitoring Tools/Application Modification

- Monitor programs using online Logic Monitoring, Data Watches, Reference View Tables, & the Data Monitor
- Make program changes while the Controller is running

Working with Variables

- Understand basic Variable concepts, along with Universal, Local, Global, and Alias scoping of Variables
- Understand Variable Types, Variable access, and the various Variable attributes

Monitor Application Variables

- Understand how to monitor application Variables using the Data Watch, Data Monitor Utility, & Reference View Tables
- Understand how to modify application Variables
- Understand how to use Variable References to find application Variable usage in the Project

Monitor Controller (No Original Project)

- Understand how to monitor a Controller program without having the original Project

Controller Equality Status

- Understand the Controller Equality Status indicators
- Understand how to determine what Controller components are Not Equal to the Project
- Understand how to gain Controller and Project Equality

Manage Controller Forces

- Understand how to detect and locate Controller Forces
- Understand how to Clear and Unforce Variables and Reference Memory Locations

Application Troubleshooting

- Understand how to troubleshoot Controller applications
- Understand how to use Search, Cross References, and References to diagnose logic behavior

Controller and I/O Faults

- Understand how to use Controller and I/O Faults to diagnose system issues
- Understand the differences between Fatal and Non-fatal Faults
- Understand how to clear and print Faults
- Understand how to save Fault Tables to a file





Registration Information

To register online: Click here, [MyTraining](#)

To register by phone: Call Emerson Education Services at **1-800-338-8158**

For additional questions or a list of courses, please visit www.Emerson.com/Education

Purchase order or credit card required for enrollment.

Credit cards preferred: Most major credit cards accepted.



Purchase

orders must be made out to:

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Please Include on PO: Student's Name, Course Number

Emerson's Payment Terms (Net 30 Days), and Course Tuition Price

Please email all purchase orders to Education@Emerson.com

Please Note: To complete the registration process, attendees must register through [MyTraining](#) or call the registration center (800-338-8158). Only receipt of purchase order guarantees a seat.

Cancellations

You may cancel your reservations up to 14 calendar days prior to the start of the course without incurring a cancellation fee. 50 percent of the full tuition will be charged for cancellations received during the 14 days prior to the start of the course, and full tuition will be charged for failure to attend without cancelling. Substitutions are accepted until the first day of class. Scheduled courses may be cancelled due to low enrollment.

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