

# nv Controller Training



**Location: Roanoke, Virginia**

- **5-day training course for engineering and maintenance personnel**
- **Controller hardware and software operation, maintenance and troubleshooting**
- **Hands-on classroom exercises**
- **Presented by engineers experienced in the configuration, programming, testing, and troubleshooting of the nv Series Controller**

## **Students will learn:**

- ✓ Fundamentals of operation for the nv Series Controller
- ✓ The Vtool programming tool
- ✓ To monitor, maintain and troubleshoot the nv Controller system
- ✓ To recognize normal and abnormal operation
- ✓ The terminology and meaning of the diagnostic messages
- ✓ To replace and reconfigure components

## Who should attend?

Qualified engineers and technicians involved in the operation, maintenance and programming of an nv Controller system will benefit from this course.

## Course Overview

The nv Series Controller course provides instruction on the hardware and software for engineering and maintenance personnel to understand the operation, maintenance, programming, and troubleshooting of systems with multiple nv Series Controllers. Hands-on classroom and lab exercises include hardware identification, I/O networks, and the Vtool programming and configuration software tool.

## Prerequisites

- A basic working knowledge of programmable logic controllers and industrial control
- A working knowledge of sound safety procedures
- Reasonable personal computer and Microsoft® Windows® skills
- Course materials will be presented in English

## Student Materials

A notebook with paper and electronic copies of the following materials are part of the course package:

- Class presentations
- Nv Series Controller & Vtool Technical manuals
- Sample control system topology



## Topics

**Introduction and overview of the Integrated nv Series Controller**

**Description and definition of terminology and acronyms used**

**Hardware Introduction and Overview**

**System and Station Topology**

**Summary of Controller functions**

**System Configuration and Module Parameters**

**V Engineering Tool**

- Client/Server Configuration

**Variables**

- Local/Global
- I/O Local/Remote

**Program Editor**

- Ladder Diagrams
- Sequential Function Charts

**Creation of Function Blocks**

**Arrays and Structures**

**Program Monitor**

**LAN Configuration of Ethernet**

**TC-net and TC-net I/O Network**

**Permissive Diagnostics**

**Troubleshooting and replacing hardware**

**ODG (Online Data Gathering) Tool for collecting data and displaying results on a trend graph**

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