

# Introduction to Logix

## < Maintenance Track >

### Course Description and Topics Covered



#### **Course Description:**

Learn how to program and operate CompactLogix Programmable Logic Controllers (PLCs) during this one-day course that covers a combination of instructor-led discussions, demonstrations, and hands-on labs. ]

Using a PLC Workstation, Remote IO Workstation, & hand-held PLC test module, students will utilize RSLinx and Studio 5000 software to learn how to use the 25 most frequently used ladder logic instructions (Normally Open, Normally Closed, Output Coils, Timers, Counters, ONS, etc.) to program PLCs.

#### **Maintenance Track Class:**

This is a maintenance track class so the participants will not be required to do any actual programming. In contrast, the instructor will program the devices in front of the students and explain how instructions operate and how to troubleshoot PLC ladder that others have programmed and they are responsible for isolating misbehaving or failed equipment.

#### **Differences between Programmer and Maintenance Track Classes:**

Programming track classes are designed for personnel that desire to learn how to program industrial control equipment from the ground up. The maintenance track style classes are designed for personnel that do not have programming responsibility, but in contrast, they are required to troubleshoot misbehaving equipment and/or replacing failed control equipment and returning equipment into service.

## **Topics Covered:**

- Overview of the Logix family of PLCs
- Overview of Studio 5000 Logic Designer software
- Overview of Rockwell's Product Compatibility and Download Center (PCDC) website
- Upgrading or downgrading (flashing) Logix controller firmware
- Discuss IP and subnet mask Ethernet network basics
- Launching software and establishing Ethernet connectivity
- Navigating Studio 5000 software features
- Adding local tags and controller tags to a Studio 5000 project
- Discuss Logix data types
- Adding ladder logic rungs to the MainRoutine
- Adding instructions to ladder logic rungs
- Editing rungs in Program Mode and Run Mode
- Editing rungs and tags while Offline or Online with the PLC
- Uploading, downloading, and going Online with the PLC
- Discuss ladder logic rung execution while in Run Mode
- Discuss MainTask scan times and monitoring scan times using Studio 5000
- Forcing inputs and outputs
- Introduce basic Ladder Logic programming skills, techniques, and tricks
- Extensive practice using RSLinx and Studio 5000 software to implement hands-on labs