# **PLC Basics, Second Edition**



Learn how to setup, configure, and program the **Allen-Bradley MicroLogix**Programmable Logic Controllers using RSLogix 500 or RSLogix Micro in PLC Basics

### Standard Course Lessons:

(Included with Standard and Extended courses)

#### Hardware

- · What a PLC is
- · Where PLCs are used
- Anatomy of a PLC
- Styles and Types
- Common Inputs and Outputs
- · PLCs used in this course
- MicroLogix Hardware Tour
- Programming Cables
- Manuals and Documentation

#### **Numbers and Data**

- Numeral Systems & Types of Numbers
- Digital Information & Data Types

# **Ladder Logic and RSLogix Software**

- · What Ladder Logic is & How it works
- · PLC Scan Detailed
- · Download and Install Software
- Using RSLogix Micro
- · Browsing Data and Program Memory

# Communications

- · RSLinx Emulate Setup
- RSLinx Serial Setup
- RSLinx Ethernet Setup

#### **Basic Programming**

- Basic Bit Instructions
- Motor Control

# **Advanced Course Lessons:**

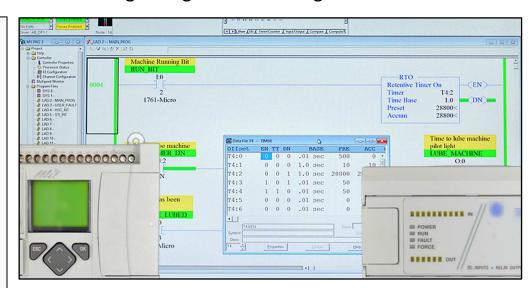
(Included with Extended course only)

# Photo Eyes, Timers, and Counters

- Bin Full Detection
- Sense Jam, No parts
- Elapsed Run Time
- Delay Time
- Part Counting
- Copy Part Counts
- Conditional Resets
- · Extra credit lessons

### **Math and Compare**

- Using ADD and SUB instructions
- · Using MUL and DIV instructions
- Using GRT and LES instructions



PLC Basics, Second Edition is designed for those students who have basic electrical knowledge, and would like to learn how to setup, program, and troubleshoot PLCs - perfect for new PLC users! The specific PLCs covered in this course (pictured above) include the Allen-Bradley MicroLogix 1100 and 1000, both of which can be programmed using the free RSLogix Micro Starter Lite software.

# What students will learn:

- What a PLC is
- Styles and Types of PLCs
- Numbering Systems and Data Types
- What Ladder Logic is and how it works
- How to setup Serial and Ethernet Communications
- Creating, Testing, and Troubleshooting MicroLogix Programs in RSLogix
- How to integrate Push Buttons and Pilots Lights with PLC Logic
- How to use PLCs in a Motor Control circuit
- And much more in the Extended Edition

#### Who should take this course:

 Anyone with basic electrical knowledge who would like to learn how to use, program, and troubleshoot Programmable Logic Controllers (PLCs.)

# What students need to complete hands-on exercises:

- Windows 7, 8, or 10 PC with Ethernet or USB port
- $\bullet \quad \text{An internet connection to download the free programming software} \\$
- A MicroLogix 1000, a "USB to Mini-Din" programming cable, and a USB port on their PC.
- Or a MicroLogix 1100, a standard Ethernet cable, and Ethernet Port on student's PC.

#### Course Editions (Note: Online courses include instructor support, completion certificate, and lifetime access)

- PLC Basics Second Ed. Standard Online Course (upgradable to extended online course)
  - PLC Basics Second Ed. Extended Online Course \$149
- PLC Basics Second Ed. Extended DVD Course

\*Note: We also offer our original PLC "Core" Basics First Edition Online Course for \$29

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\$69

\$149

# The Automation School's Group Enrollment Program

The Automation School offers group enrollment to our business customers who need to enroll multiple employees in one or more of our courses.

Employers who utilize group enrollment gain access to several benefits, including group discounts based on the number of students being enrolled.

Our group enrollment program also provides employers with the ability to track student progress using a complimentary "group progress" webpage accessible to designated "group leaders."

This webpage not only allows the tracking of student progress, but also provides individual quiz scores and overall completion status. Access to this level of detail has been especially helpful to employers who incentivize their employees to successfully complete the courses they're enrolled in.

And just like with standard enrollees, students enrolled through the group enrollment process will have access to their courses *for as long as they are employed by the company who enrolled them,* as none of our courses come with any artificial deadlines or expiration dates.

So, if you're considering enrolling three or more employees in courses at The Automation School, I invite you to reach out to us for a free group enrollment quote.

Sincerely,

Shawn Tierney, Instructor and Founder, The Automation School

# Common "Group Enrollment" Questions

"What do I need to provide you with in order to enroll a group of employees in online courses at The Automation School?"

First, in order for us to provide you with a group enrollment quote, we'll need to know how many students you want to enroll (minimum of three,) and which courses you wish to enroll them in. This information can be submitted to us using our Group Enrollment Inquiry Form HERE.

Then when you place your group enrollment order, you'll need to provide us with the name of each student as well as their company email address. If you wish to make use of the student tracking webpage, we'll also need at least one group manager's name and email address as well.

"After enrolling a group of employees, if one of them leaves my department or our company can I pass that seat onto to a replacement?"

Yes! As long as the original enrollee has not completed more than 25% of the course, we can pass the former enrollee's seat on to a new employee *totally free of charge!* If the original student has completed more than 25% of the course, thier seat can be reallocated at a pro-rated cost (i.e. if the previous student completed 50% of the course, reallocating their seat would cost 50% of a new seat)

"How can I find out more about enrolling a group of my employees in online courses at The Automation School?"

To get in contact with us about group enrollment, just fill out our short Group Enrollment Inquiry form <u>HERE</u>, and we'll typically get in touch with you within one business day!