PLC Programming
from Beginner to
Paid Professional

Part 4

Learn How to Integrate & Program

Point IO Hardware in RSLogix 5000

with Demo Videos

By

A. B. Lawal

PLC Programming from Beginner to Paid Professional – Part 4

ISBN: 9791220252836

Published in the United States

Table of Contents

About the Author

How this Book can Help You

How to Use the Demo Videos & PLC Programs

1. Introduction to Point IO PLC Programming

2. Hardware Overview of Point IO Module

3. How to Power on the Point IO Module

4. EtherNet IP Address Configuration BOOTP & Thumbwheel

5. Exploring the Web Connectivity of the Point IO Rack

6. Point IO Integration: How to Create Point IO Definition Within CompactLogix PLC & Validate the Communication

7. Point IO Digital Input Wiring & Testing: How to Wire a Digital SICK Sensor into a Point IO Input & Testing the Hardware in Studio 5000

8. Point IO Programming: How to Create PLC Based Tags for Point IO Based Inputs & Outputs

9. Point IO Practical Example: A Real Panel Used for Plant Control

10. How to Download the Demo Videos, PLC Programs (Codes) & Demo Editions of RSLogix 5000 / Studio 5000 Logix Designer

11. How to Get Further Help

    11.1. More Helpful Resources

About the Author

I am a Control Systems Engineer, Systems Integrator and a Content Creator. I have worked with over a thousand clients across business sectors, mostly the PLC automation industry. I have written numerous books, articles, and leadership classes for higher education institutions.

I have over 15 years of experience in Control Systems Engineering. I have had the opportunity to work within world class organizations such as Kraft Heinz, Procter & Gamble, and Post Holdings.

As a Control Systems Engineer, I have worked on several PLC-based systems such as the Allen-Bradley's RSLogix 5, 500, 5000, Studio 5000, PACs, PowerFlex variable frequency drives, and so much more. I have mastered other great technologies such as Cognex In-Sight Vision Systems & so much more.

Now I live and breathe PLCs (Programmable Logic Controllers). I've invested a lot of money and time into equipping myself with many of the latest PLC hardware in the world. This is because I truly believe that an investment in myself will pay dividends down the road and that the automation industry will only keep growing.

I believe in excellence and I'm highly driven by successful people. I am dedicated to seeing my clients succeed and achieve their goals. I love to create PLC programs and help manufacturing companies grow. I've successfully coached over a thousand business owners and leaders.

I'm proud to boast of extensive experience and a successful company which has been in business for over 15 years.

How this Book can Help You

This playbook is the 4th in my PLC Programming series. It is an exhaustive collection of my tutorials and demo videos on how to work with Allen Bradley's Point IO 1734 hardware.

First, you will be introduced to this hardware component from Rockwell Automation. Next, you will learn how to connect to it from a network. With my demo videos, you will also learn how to wire a SICK sensor into a Point IO input and test the hardware in Studio 5000.

You will find this book and the accompanying demo videos very helpful if you are an electrician, an instrumentation technician, a manufacturing operator, an automation professional or engineer looking to looking to progress their career or level up their knowledge of Point IO digital input wiring and testing, and to acquire advanced PLC programming skills.

There are 11 chapters in this book and are accompanied with **9 in-depth HD demo videos that you can download**. These videos simplify everything you need to understand, and help you **speed up your learning** of Point IO Hardware programming and integration. There is also a link in this book for you to download my PLC programs (codes) for your revision.

I start with an overview of the Point IO modules, and then move on to IP addressing, web server, and power supply overview. Then I proceed to Point IO integration into Studio 5000, including how to create the Point IO definition within the CompactLogix 1769-L24ER-QB1B PLC and validating the communication. Finally, I take a special look at a Point IO real panel example. This is a Point IO panel used for a plant control which I commissioned myself few months ago.

So, after studying this book and the demo videos, you should develop a hands-on approach to the programming and integration of Point IO into Studio 5000 Rockwell Environment, and be able to use it in real world industrial applications.

The best way to master PLC programming is to use real world situations. The real-world scenarios and industrial applications developed in this book and its accompanying video demos will help you learn better and faster many of the functions and features of Studio 5000 platform.

The methods presented in the demo videos are those that are usually employed in the real world of industrial automation, and they may be all that you will ever need to learn. The information in this book and the demo videos is very valuable, not only to those who are just starting out, but also to any other skillful PLC programmer, no matter their skill level.

Merely having the user manual of a Point IO hardware, or referring to its help contents, is far from enough in learning this critical component of a distributed control system. Therefore, this book and the accompanying demos are extremely useful for learning how to reduce costs of installation and the need of multiple PLCs in many situations.

One of the questions I get asked often by beginners is, where can I get a free download of RSLogix software to practice? I provide later in this book links to a **free version of the RSLogix**

Micro Starter Lite (which is essentially the same programming environment as the RSLogix 500 Pro) and a **free version of the RSLogix Emulate 500**.

In Chapter 10, I also provide links to download the demo edition of **RSLogix 5000 / Studio 5000** Logix Designer to your system. Make sure you create an account at RockwellAutomation.com first. So, you don't even need to have a full-blown PLC to learn, run and test your ladder logic programs.

I do not only show you how to **get these important Rockwell** Automation **software for free and without hassle**, I also show with HD videos how to install, configure, navigate and use them to write ladder logic programs.

However, if you are a complete novice to PLCs or PLC programming, here's the link to my book that you will find very helpful to get started: PLC Programming Using RSLogix 500 & Real World Applications: Learn Ladder Logic Concepts Step by Step with Real Industrial Applications.

Then you can move on to the first part of the series: PLC Programming from Beginner to Paid Professional - Part 1: Learn RSLogix Software & Hardware with Demo Videos.

Finally, if you have questions or need further help, use the support link I provided in Chapter 11. I will get back to you quickly.

How to Use the Demo Videos & PLC Programs

You will find the link to download all the 9 demo videos and program codes in Chapter 10 of this book. The serial number and title of the video you should watch is mentioned in the appropriate section of each chapter.

For effective learning and to get good practice, I strongly advise you attempt the challenges and projects in this book on your own. Build your own program after you have watched me build mine in each video. Then later you can cross check your programs with mine. Also feel free to use or modify any of the PLC programs you downloaded as you wish.

1. Introduction to Point IO PLC Programming

This chapter is an introduction to the Point IO. A Point IO is a module which helps you to increase the number of inputs and outputs at the machine level. It plays a very critical role within modern and distributed control system environments.

It also helps the end user to add input and output nodes to their system within proximity of field devices. Therefore, it helps to minimize costs of installation and the need of multiple PLCs in many situations.

Other PLCs such as CompactLogix L24ER feature local inputs and outputs. However, the question which arises is what can you do once you start getting more inputs and outputs in the PLC field? The answer is we should instead use remote modules, such as Point IO and Flex IO from Alan Bradley and many others.

Let's go over to the first demo video for your first introduction to the Point IO.

Video 1: Point IO Introduction (2:57 Minutes)