ELK CREEK AUTOMATION
Training for the Modern Technician

Allen Bradley Controllogix Basics and Troubleshooting Level I and II

Allen Bradley Controllogix Basics and Troubleshooting is designed for the technician or engineer who is tasked with troubleshooting or maintaining Allen Bradley Controlled equipment. The class is 100% hands on.

Outline:

1. Basic Input and Output Wiring
2. Input and Output power considerations 24vdc vs 120vac
3. Understanding the PLC scan cycle and requested packet interval (RPI)
4. Associating field wiring with internal PLC addressing
    - 4.1. Creating tags and alias
5. Overview and practice exercises using PLC (IEC standard) timers
    - 5.1. TON Timer On Delay
    - 5.2. TOF Timer Off Delay
    - 5.3. RTO Retentive Timer On
6. Practice exercises in Ladder Logic, Function Block, and Structured Text Languages.
7. Cover PLC counter instructions
    - 7.1. CTU Count Up
    - 7.2. CTD Count Down
    - 7.3. CTUD Count Up and Down
8. Understanding Various Data Types
    - 8.1. Sint, Int, Dint, Bool String
9. Using and understanding compare instructions
10. Overview of Basic Number Systems
    - 10.1. Binary, Octal, Hexadecimal, Decimal
11. Understanding and practicing with basic Structured Text and Function Block Programming
12. Practice toggling and forcing bits
    - 12.1. Understand the difference between forcing an input or output address
13. Flashing and updating firmware on PLC
14. Understanding Analog inputs and outputs
    - 14.1. Scale Inputs and Outputs
    - 14.2. Troubleshooting 0-10vdc and 4-20ma signals
15. Introduction to basic Allen Bradley IP networking
    - 15.1. Configure IP address in network card
16. Network PLCs together through a common network switch in the classroom
17. Add on Instructions & User Defined Tags
18. Array Data Types
    - 18.1. Reading and writing data within arrays
19. Troubleshooting programs that use sequencers
20. Understanding task, programs, and routines
21. Using RS Linx
    - 21.1.Practice finding PLCs on a network and going online
    - 21.2. Using BootP
22. Practice safe online editing
23. Advanced search and cross reference techniques /browse logic
24. Tutorial of CPU faults and their causes
25. Advanced programming using produced and consumed tags
26. PLC to PLC communication
    - 26.1. Programming and Troubleshooting Message Instructions
    - 26.2. Produce and Consume Tags
27. Removing or adding cards in a physical 1756 rack
    - 28.1. RUIP
    - 28.2. Card firmware revisions and compatibility

Changing the World
I O
One Bit at a Time

info@ElkCreekAutomation.com