

Downloaded on Tuesday 7th September 2010

Software	RSLogix 5000
Duration	5 Days
PLC-Type	Allen Bradley FlexLogix
Pre-Requisites	No prerequisites this is a beginners course
Maximum Delegates	6

Brief Description

- * To understand exactly how a PLC works
- * To understand basic PLC concepts
- * Be able to troubleshoot a FlexLogix/ControlLogix and CompactLogix PLC systems in a competent and confident manner
- * Be able to understand ControlLogix hardware configuration and be able to add or replace modules when a fault occurs.
- * Be able to operate the Allen Bradley software to make it perform common tasks.
- * Understand basic instruction set and be able to make minor modifications to software.
- * Be able to backup and restore a PLC program when required.
- * Be able to perform basic system diagnostics when a problem occurs.
- * Be able to understand and back track through a simple programs

Course Documentation

- * Training Log
- * Pre Course Exercises
- * Course Exercises
- * Post Course Exercises
- * Filofax Pocket Reference Guides

Course Content

To fault find a system you need to know EXACTLY how it works HOW EXACTLY DOES A PLC WORK?

- * Am I getting the input to the PLC?
 - * The Led on the output card means i am getting voltage out right? does it?
 - * What exactly happens in between? ,theres more than just a program in the CPU
 - * How exactly does it scan the program?
 - * What is this Watchdog Timer? Is it that important?
 - * Can I use the same output twice? That's bad programming isn't it?
 - * A PLC is a logic controller, so use a logical approach to fault find it.
 - * What are the 8 simple test points to check?
 - * The PLC is in RUN, that means theres a program right? does it?
 - * FORCING a bit and toggling a bit is pretty much the same yeah? depends on which PLC
- Then you need to Know the specifics HOW DO I DO THE FOLLOWING? (some straight forward some not so)

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- * Check power is ON and PLC is in right mode (RUN or Program)
- * Check LEDs for fault definition (what exactly does the LED tell me)
- * Check and Change Modules if required (with spares and without spares)
- * Removing modules with power ON (will I blow anything up)
- * Establish link to PLC (RSLinx)
- * Link to CPU via RS232 port, Ethernet or DH+ module
- * Checking Ethernet connections using PING instruction (very useful)
- * Create a blank project and take a backup (just in case I mess up)
- * Open the correct project Off Line and link to PLC
- * Interrogate errors in Controller Properties, common faults
- * Identify if it is a hardware or software fault?
- * Identify if it is a PLC or Comms fault
- * Access fault information about I/O cards
- * Change the battery, (with power ON of course)
- * Working with CPUs with Non Volatile (EEPROM) memory
- * Check all settings against a template, Node Address etc.
- * Check Hardware Configuration, I/O errors
- * Clear Memory and Download program
- * Monitor program
- * Is it Latched or Unlatched I'm never quite sure?
- * Altering values in Tag tables
- * Back tracking through a program to establish where power flow stops
- * Searching for specific operands and instructions
- * Using Bookmark function
- * Changing timer, counter values On Line
- * Making minor mods Off Line and On line
- * Create a Trend to trend address status or values
- * Altering timer, counter and other values if required
- * Force a parameter if required
- * Toggling addresses to move program on in sequence
- * Call up documentation to assist with software diagnostics
- * Printing Cross Reference / Program Listings etc. Background information also covered

Understanding of the following:

- * Number formats, bits, words, double words
- * Binary, Real, Integer, DINT,
- * Basic Communications, RS232 and Ethernet
- * Network Basics
- * Setting up a simple Ethernet network
- * Tasks, Programs and Routines
- * How to monitor various blocks
- * Understand basic Ladder programs
- * Basic Instructions, contacts, Latch, Unlatch etc.
- * Timers, Counters
- * Comparators, Maths
- * Fault finding tips

Equipment

- * FlexLogix PLC

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- * PC or Laptop
- * Simulator



Solutions, Not Courses.