



## Allen-Bradley ControlLogix Basic 3 Day Course

<b>Software</b>	RSLogix 5000
<b>PLC Type</b>	Allen-Bradley ControlLogix
<b>Duration</b>	3 Days
<b>Max Delegates</b>	6

### Course Outline

Upon completion of the course the student should:

- Understand exactly how a PLC works.
- Understand basic PLC concepts.
- Be able to troubleshoot a CompactLogix and ControlLogix PLC system in a competent and confident manner.
- Be able to understand CompactLogix/ControlLogix and FlexLogix 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 Equipment per Delegate

- Allen-Bradley ControlLogix, CompactLogix or FlexLogix PLC.\*
- PC or laptop.
- Simulator.

\* *Systems designated to suit delegate requirements.*

### 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?
- 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?
- What is the difference between forcing and toggling?

### **How do I do the following?**

- Check power is ON and PLC is in right mode (RUN or Program).
- Check LEDs for fault definition.
- Check and change modules if required (with spares and without spares).
- Remove modules with power on.
- Establish link to PLC (RSLinx).
- Create a blank project and take a backup.
- Open the correct project offline 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 IO cards.
- Change the battery with the power on.
- Check all settings against a template, node address, etc.
- Check Hardware Configuration, IO errors
- Clear memory and download program.
- Monitor program.
- Searching for specific operands and instructions.
- Using bookmark function.
- Changing timer, counter values online.
- Making minor modifications offline and online.
- 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 the following**

- Number formats, bits, words, double words.
- Binary, Real, Integer, DINT.
- Tasks, programs and routines

- How to monitor various blocks.
- Understand basic ladder programs.
- Basic instructions, contacts, latch, unlatch, etc.
- Timers and counters.
- Comparators, maths.
- Altering values in tag tables.
- Toggling vs forcing.
- Back-tracking through a program to establish where power flow stops.
- Fault finding tips.

## **Booking and More Information**

To book onto this course or for more information regarding course content, schedule or pricing please email [sales@foxmere.com](mailto:sales@foxmere.com) or call the main office on 01922 349 999.

