

APPLICATIONS OF PROGRAMMABLE LOGIC CONTROLLERS

Course Title	Programmable Logic Controllers (PLCs) Level 3
Software	GX Developer Software
Duration	10 Days
Pre-Requisites	None
Maximum Delegates	12

Aim and Purpose of the course

This 10 days modular course will give learners an understanding of the applications of Programmable Logic Controllers (PLCs), the hardware and software that makes up a PLC and interaction needed between the component parts.

Unit introduction Week 1

- History behind PLC's
- Advantages
- Types, modular, rack etc
- Basic ladder instructions
- Networking
- Inputs and Outputs
- Special Modules
- Logic functions
- Sensors and devices
- Sinking and Sourcing
- Basic ladder, comments and statements
- I/O addressing
- Safety and interlocks
- Logixpro Simulator exercises.

Unit introduction Week 2**Main objectives**

Based around the GX Developer software, the course will run through the advanced features of all current Mitsubishi PLC products. Concentrating on the applied instruction set, delegates will be able to use the mathematical functions, displaying results and interfacing with analogue units and HMI's. Delegates will be given many practical exercises to solve using bespoke training equipment. Delegates will also be introduced to HMI software and communication protocols.

Number formats, bits, bytes, words, double words
Binary, HEX, octal, floating point, integer.

Requirements

An understanding of basic PLC's and electrical principles and number bases would be preferred but not required.

Products used

This course uses dedicated FX and Q platform hardware together with GX developer programming software and HMI development software.

Subjects covered in this course

- Special M coils
- Multi-operation programming
- Date registers
- Using 16/32 bit memory areas
- Advanced programming techniques
- Shift registers
- Floating point maths
- Analogue control
- Timers
- Counters
- Comparators, Maths
- Mathematical data manipulation
- Communication Protocol
- PLC Parameters.

HMI

- HMI/PLC communication protocol
- Tag defining
- Screen design
- Uploading and downloading
- Alarm and messaging.

Course held at:

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