

# AUTOMATION ACADEMY

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## Course Title: Mitsubishi FX Maintenance Course

The Mitsubishi FX Maintenance Course has been designed to familiarise Electricians, Technicians and Maintenance Engineers with little or no experience of Mitsubishi FX systems to the different aspects associated with the operation and maintenance of Mitsubishi FX controllers and the programming software. This course is intended to give students the background knowledge and practical experience in working on a Mitsubishi FX system so that they have a good understanding of the system and have the ability to make small edits and make changes to program parameters.

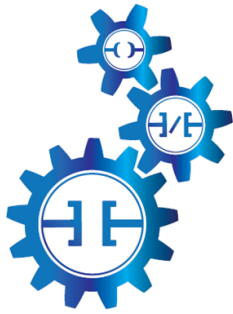
Where possible, application specific exercises, actual drawings and plant programs will be used to allow the students to gain the greatest possible benefit from the course.

## Course Objectives:

- ☒ To introduce students to the concepts, terminology and operation of Mitsubishi FX controllers.
- ☒ To recognise and understand the hardware associated with Mitsubishi FX controllers.
- ☒ To recognise and understand what the system LED's indicate.
- ☒ To be able to open and understand the project structure of the Mitsubishi FX program and to have the confidence to implement minor changes to the ladder program and register values.
- ☒ Understanding the use and operation of Mitsubishi FX ladder instructions set.
- ☒ To be able to use the programming software to connect online to monitor and be able to use the search facilities to chase through the program to determine problems on plant.
- ☒ To be able to locate and replace faulty modules by understanding and using the cpu diagnostics within the controller when an error is present.
- ☒ To be able to create a backup copy of the Mitsubishi FX controllers program. To be able to restore a program back into the controller from a backup copy.

## Course Content:

The hardware architecture and operation of Mitsubishi FX controllers.  
Understanding Mitsubishi FX I/O modules, their plant wiring and LED indicators.  
Addresses used in the Mitsubishi FX range of controllers.  
First steps using the programming software.



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Creating a training program to demonstrate plant programming examples.  
Getting an online connection to the Mitsubishi FX controller.  
Downloading the user program to the Mitsubishi FX controller.  
Online monitoring and the Mitsubishi FX search facility.  
Creating and using tables to monitor the Mitsubishi FX PLC status.  
An overview of the Mitsubishi FX ladder programming techniques used on plant programs.  
A demonstration of simple program editing and modifying plant programs.  
Reading the Mitsubishi FX controllers standard instruction set.  
Programming examples including relay, timers, logic, maths, and compares.  
Understanding and configuring higher level ladder instructions in the program.  
Binary, Decimal and Hex numbering systems and their use in an Mitsubishi FX program.  
Using and creating program documentation.  
Using program documentation for fault finding purposes.  
Analogue modules and the maths involved in analogue signal processing  
Mitsubishi FX controller fault devices and their meaning.

## **Customised training included in the course cost.**

As part of this training course we will include custom application exercises for your own plant and processes, this value added option creates immediate payback for students on plant. It will have the benefit of the students becoming familiar with key areas of your PLC project(s) during the training course. This option does require the supply of your plant drawing and program listings at least 2 weeks prior to the course start date.

Course Duration: 3 Days

Documentation: Mitsubishi FX Controller Training Manual.

Equipment per student: Mitsubishi FX controller

Programming laptop

Plant simulator

**Web link: [Mitsubishi FX Maintenance Course](#)**