

AUTOMATION ACADEMY

A u t o m a t i o n S y s t e m s T r a i n i n g S p e c i a l i s t s

Course Title: Siemens S7 300/400 Level 3 Using Simatic Manager

The Siemens S7 Controller Level 3 training course has been designed to build on the foundation knowledge of our level 1 and 2 courses. It is specifically for Engineers with experience of working with S7 systems to introduce the more complex aspects and programming techniques used in Siemens S7 PLC programs and WinCC based HMI systems.

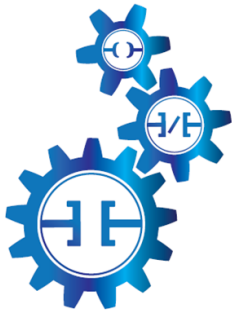
Where possible, application specific exercises, actual drawings and plant programs will be used to allow the students to gain the greatest possible benefit from the course.

Course Objectives:

- ☒ To fully revise and further develop an understanding of the Siemens S7 instruction set.
- ☒ The use of System Functions (SF's) and System Function Blocks (SFB's).
- ☒ To use and understand complex data types including UDT's and Struct in Data Blocks.
- ☒ To develop an understanding of the range of indirect addressing techniques available.
- ☒ To further understand the operation of the Organisation Blocks (OB's) commonly used in application programs.
- ☒ To further understand higher level features within Function Blocks (FB's).
- ☒ To understand how the Simatic HMI is connected and configured using WinCC Flex.

Course Content:

Creating the level 3 training project and topics revision as necessary.
Ladder programming exercises using high level instructions.
Statement List programming exercises using high level instructions.
Indirect addressing programming examples in STL.
Using System Functions and System Function Blocks in the level 3 program.
Creating a DB using UDT's and Struct data types.
Creating a Function Block using the interface with STAT and TEMP variables.
Adding the newly created FB's into the level 3 training project.
Creating and configuring a Profibus/Profinet network to utilise OB86 for fault conditions.
Creating a Function Block to control and monitor a VSD on Profibus/Profinet.
Creating the total system of PLC, VSD and HMI to mimic plant operations.
Using WinCC Flex to develop the HMI system and integration into the level 3 PLC project.



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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: 4 Days

Documentation: Siemens S7 300/400 Level 3 Training Manual.

Equipment per student: Siemens S7 300/400 controller

Programming laptop

Plant simulator

Web link: [Siemens S7 300/400 Level 3 Using Simatic Manager](#)