

**SIEMENS S7 1500 LEVEL 1 WITH TIA PORTAL****Siemen S7 1500 Level 1 with TIA Portal**

The course has been designed to familiarise Electricians, Technicians and Maintenance Engineers with little or no experience of S7 1500 and the TIA Software to the many different aspects associated with the operation and maintenance of Siemens S7 1500 controllers.

Where possible, application specific exercises, actual drawings and programs listings are used to allow the students to gain the greatest possible benefit from the course. The practical experience on the course will provide knowledge on Program structure, editing, Hardware Configuration and Profinet networks enabling the student to perform maintenance faulting finding and programming on Siemens S7 1500 hardware and on plant devices using the TIA Portal software.

**Objectives**

To introduce students to the concepts and operation of S7 1500 programmable controllers, including the following areas:

- ✓ Locate and replace faulty modules.
- ✓ Reload programs.
- ✓ I/O Fault finding.
- ✓ Using the TIA Portal programmer to connect online and monitor programs to determine plant problems.
- ✓ Cross referencing and Searching.
- ✓ Make small changes to the project.
- ✓ Introduction to communications.
- ✓ Implement changes to the program.

**COURSE CONTENT**

- ✓ The hardware architecture of the S7 1500 range of controllers.
- ✓ Navigation of the CPU screen to control the CPU and determine faults.
- ✓ I/O Modules and wiring.
- ✓ Addresses used in the S7 range of controllers.
- ✓ Data Formats.
- ✓ Data blocks.
- ✓ Program structure, introduction to blocks; OB's, FC's FB's , SFC's, SFB's and DB's.
- ✓ Introduction to LAD, FDB and STL programming formats.
- ✓ Introduction to Project Structure.
- ✓ First steps with the TIA programmer.
- ✓ Hardware Configuration.
- ✓ Creating tags and using addresses.
- ✓ Creating FC's.
- ✓ Programming using LAD, FDB and STL.
- ✓ Editing and modifying programs.
- ✓ Introduction to PN and IP addresses.
- ✓ Creating an online connection on PN.
- ✓ Downloading projects to the PLC.
- ✓ Online monitoring, searching and using the cross-reference XRF.
- ✓ Instruction set. Relay, maths, move, compare and logic functions.
- ✓ Using and creating program documentation.
- ✓ Introduction to function blocks and their uses.
- ✓ Using the symbols list.
- ✓ Analogue modules and analogue scaling.
- ✓ Introduction to Load, transfer, maths and compares.
- ✓ Diagnostic information and module information used for fault finding.
- ✓ Using watch windows and modifying variables.
- ✓ Forcing facilities.
- ✓ Archiving and retrieving projects.
- ✓ Uploading a project procedure.
- ✓ Application exercises on your plant programs.

**Course Reference**  
S71500TIAL1**Course Duration**  
5 Days**Documentation**  
Siemens S7 1500 Level 1  
with TIA Portal Training  
Manual.[DOWNLOAD SYLLABUS →](#)