

SIEMENS S7 1500 RETRAIN**Siemens S7 1500 Maintenance Course**

The course has been designed to familiarise Electricians, Technicians and Maintenance Engineers with experience of Siemens S7 300 and 400 systems using Simatic manager who wish to be retrained on the Siemens S7 1500 and TIA Portal software.

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, Profinet networks and create HMI's enabling the student to perform maintenance faulting finding on the Siemens S7 1500 hardware and on plant devices connected to Siemens S7 1500 PLC with 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.
- ✓ Introduction to communications.
- ✓ Implement changes to the program.
- ✓ Programming a HMI screen using TIA Portal.
- ✓ Controlling G120 over Profinet.

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.
- ✓ Configuring Profinet I/O.
- ✓ Using to TIA Portal software to program an HMI.
- ✓ Controlling G120 variable speed drives over Profinet.
- ✓ Application exercises on your plant programs.

Course Reference
S71500RT

Course Duration
5 Days

Documentation
Siemens S7 1500 & TIA
Programming and
Maintenance Training
Manual.

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