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Siemens 1200/1500, Networks & WinCC TIA Portal Level 2

Software: Siemens TIA Portal

PLC Type: Siemens S7 1200

Duration: 5 Days

Pre-requisites: Attended Siemens 1200/1500 Level 1 Course

Maximum Delegates: 6

Brief Description

The Level 2 course is aimed at delegates who will be either writing PLC code or having to troubleshoot more complex S7 1200 and 1500 PLCs and Networks.

- Be able to understand statement list programs.
- Understand Complex Instructions.
- Be able to write STL and FBD PLC programs.
- Be able to write Structured Text SCL PLC programs.
- Be able to configure advanced PLC functions.
- Be able to access and use the advanced functions of the TIA Portal software.
- Be able to add diagnostics features to IO cards
- PLC to PLC Communications, GET/PUT and TSEND_C/TRCV_C
- Be able to configure and troubleshoot ProfiNet Networks.
- Be able to configure and troubleshoot ProfiBus Networks
- Advanced WinCC HMI functions.
- Users and Password
- Recipes
- Trending

Course Content

- Understand Intermediate/Advanced Ladder programs and representation
- Understand Statement List programs and representation (1500 CPU)
- Understand Function Block programs and representation
- Understand Structured Text programs and representation
- Data Blocks Actual Values and Snapshots
- Data Blocks, Retain option (Retentivity)
- Adding diagnostics functionality to Hardware
- Programming Techniques
- Intermediate Instruction Set

- Use of Trace Function
- Use of OBs, OB121, OB82 etc
- Use of project libraries and copies and types.
- Understanding and Editing more advanced existing programs
- Creating new STL and FBD programs
- Creating new Structured Text SCL programs
- User Defined Data types (UDTs)
- Instance and Multiple Instance Data Blocks
- Using the simulator Package S7 PLCSIM
- Advanced CPU Settings
- Password Protection
- PLC to PLC Comms via TSEND_C/TRCV_C
- **WinCC TIA**
- WinCC Advanced Functionality
- Recipes
- Configuring Users and Password Protection
- Displaying PLC Diagnostics Buffer
- Displaying Hardware Diagnostics
- **ProfiNET**
- ET200SP CPU
- ProfiNet Networks
- ET200S Remote IO
- Configuring Hardware diagnostics
- **ProfiBus**
- ProfiBus Networks
- ET200M Remote IO
- Configuring Hardware diagnostics

Course Equipment (per delegate)

- S7 1200 and 1500 PLC
- PC or Laptop
- Simulator