

SIEMENS TIA PORTAL PROGRAMMING – PART 2

COURSE SPECIFICATIONS

Course Code: TIA-PRO2

Course Length: 5 Days

TARGET AUDIENCE

Programmers, commissioning engineers and engineering personnel.

PRE-REQUISITES

- Basic knowledge of automation technology.
- Completion of the TIA-SERV2 or TIA-PRO1 course.

COURSE OBJECTIVES

The Totally Integrated Automation Portal (TIA Portal) forms the work environment for integrated engineering with SIMATIC STEP 7 and SIMATIC WinCC.

The second part of the SIMATIC TIA Portal programming training is based on the knowledge of the TIA Portal gained in the SIMATIC S7 TIA Portal programming 1 course, including STEP 7, SIMATIC S7, HMI, connection of drives, and PROFINET IO. You will expand your knowledge of complex operations in statement lists (STL) and in Structured Control Language (SCL). Along with analogue value processing and data administration with complex data types, the evaluation and handling of program-related errors are also considered. Building on this, you will learn how to display messages on the operator control and monitoring system (HMI). Thanks to the knowledge imparted, you will gain new impetus and ideas for efficient PLC programming.

You can deepen your theoretical knowledge with numerous practical exercises on a TIA system model. This consists of a SIMATIC S7 automation system, ET200 distributed I/O, Touch panel, and drive.

After attending this course, you can do the following:

Understand the fundamentals of interaction of the TIA components

- Solve simple programming tasks using elementary STEP 7 instructions
- Reliably operate the "TIA Portal" engineering platform

- Program simple plant functions with basic STEP 7 instructions in the ladder
- diagram (LAD) or function block diagram (FBD)
- Perform simple commissioning of TIA components
- You can deepen your theoretical knowledge with numerous practical exercises on a TIA system model. This consists of a SIMATIC S7-1500 automation system, ET 200SP distributed I/O, Touchpanel TP700, drive SINAMICS G120 and a conveyor belt model.

LEARNING OUTLINE

1. Overview and significant performance characteristics of the SIMATIC S7 system family
2. The components of the TIA Portal: STEP 7, WinCC, Startdrive
3. Program execution in automation systems
4. STEP 7 block types and program structuring
5. Binary and digital operations in the function block and ladder diagram (FBD/LAD)
6. Programming of parameterizable blocks
7. Data management with data blocks
8. Programming organization blocks
9. Test tools for system information, troubleshooting, and diagnostics
10. Hardware configuration and parameterization of the SIMATIC S7 modules, a PROFINET IO system (ET-200), a Touch Panel, and a drive
11. Program Cycle, Process Image and Process Image Partition
12. Explanation and using different organization blocks
13. Startup of a drive (G120) and communication with standard telegram 1
14. Deeper understanding of contents through practical exercises on the SIMATIC S7-1500 system model

CERTIFICATION

Successful participants will receive an **international Siemens certificate**. Siemens LTD is accredited by **merSETA** to fulfil the functions as contemplated in SAQA regulation 13 for the standards and qualification as detailed in the statement of accreditation.

MERSETA TRAINING PROVIDER

Onetrust Training Solutions has received full accreditation as a **merSETA Training Provider**. (Certification number: 17-QA/ACC/2313/21.) We are in the process of extending our scope of accreditation for most of our individual training courses and skills programmes.

CONTACT DETAILS

Further enquiries may be directed to:

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