

Online Training - SIMATIC S7-1500 with TIA Portal (Basic Course) (AS-OL1500B)

Objectives

To make participants aware and familiar with:

- SIMATIC S7-1500 automation system
- TIA portal V16 as engineering framework
- Basic programming concepts in TIA
- Digitalization topics in TIA Portal along with use cases

Target Group

- Service engineers
- Programmers
- Commissioning engineers
- Maintenance engineers

Content

Hardware

- System overview of SIMATIC controller families
- SIMATIC S7-1500 family in detail
- Hardware configuration of S7-1500 controller in TIA
- S7-1500 module spectrum

TIA portal

- TIA portal products and scope
- Digitalization in planning phase: TIA selection tool*
- License management for TIA
- Overview of framework
- PLM integration with TIA Portal – explanation* **new**

Software and Programming concepts

- Working with PLC tags
- Bit logic instructions
- Concept of RLO
- Programming rules
- Elementary data types
- Standardization in programming as a basis for enabling digitalization* **new**
- Arithmetic and logic operations
- Working with watch tables
- Analog value processing
- Linear v/s structured programming approach
- Effective programming using function and function blocks
- Use and need of data blocks
- Types of data blocks
- Snapshot and download without reinitialization in DB
- Concept of Organization blocks
- SIMATIC security services for machine and plant security*

Communication - Explanation and demo only

- SINAMICS G120 drive integration with S7-1500 controller on Profinet(PN)/Profibus DP protocol
- S7-1500 controller with remote station on Profinet(PN)/Profibus DP protocol
- Introduction to cloud connectivity using S7-1500 – explanation* **new**

Troubleshooting and diagnostic topics

- Significance of LED indication on different modules
- Diagnosis using diagnostic buffer
- Cross-references, call structure, assignment list, dependency structure
- Memory resource allotment
- Memory overlap identification
- Trace configuration tool
- Project backup
- Forcing, renaming, and rewiring concepts
- Project comparison
- Remote diagnostics using web server with user defined webpages*

HANDS ON

- Application example-based exercises after each topic

Prerequisites

- Basic know how about automation technology is must
- Basic knowledge of electrical technology and digital electronics

Note

- SOFTWARE VERSION: STEP7 TIA v16 Professional

TECHNICAL REQUIREMENT:

- A computer or laptop with Windows 7/10 OS and a stable internet connection. (We recommend a data transfer rate of 16 Mbit/s.)
- Microsoft Teams platform for technical presentations and demo. (We recommend using desktop app for best possible use of all functions).
- Goggle Chrome internet browser for assessing virtual lab solution for hands-on

Type

Online-Training

Duration

5 days

Language

en

Fee

42,000 INR
18% GST additional on Course fee