

## Online Training - SIMATIC S7-1200 with TIA Portal Course (AS-OL-1200)

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### Objectives

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To make participants aware and familiar with:

- SIMATIC S7-1200 automation system
- TIA portal V16 as engineering framework
- Basic programming concepts in TIA
- Digitalization topics in TIA Portal along with use cases

### Target Group

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- Service engineers
- Programmers
- Commissioning engineers

### Content

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#### Hardware

- System overview of SIMATIC controller families
- SIMATIC S7-1200 family in detail
- Hardware configuration of S7-1200 controller in TIA
- S7-1200 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
- Concept of Organization blocks
- SIMATIC security services for machine and plant security\*

#### Communication - Explanation and demo only

- SINAMICS G120 drive integration with S7-1200 controller on Profinet(PN)/Profibus DP protocol
- S7-1200 controller with remote station on Profinet(PN)/Profibus DP protocol
- Introduction to cloud connectivity using S7-1200 – 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

#### HANDS ON

- Application example-based exercises after each topic

#### Prerequisites

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

**Note**

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- SOFTWARE VERSION: STEP7 TIA v16 Basic

**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**

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Online-Training

**Duration**

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5 days

**Language**

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**Fee**

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30,000 INR

18% GST additional on Course fee