

## "Online Training" TIA Portal Service 1 Course (TIA-SERV1)

### Short Description

The Totally Integrated Automation Portal (TIA Portal) forms the work environment for integrated engineering with SIMATIC STEP 7 and SIMATIC WinCC. In this first part of the SIMATIC TIA Portal service training, we teach you the handling of the TIA Portal, basic knowledge about the structure of the SIMATIC S7 automation system, configuration and parameterization of hardware, and the basics of programming. You also receive an overview of HMI, PROFINET IO / PROFIBUS, Distributed I/O and connecting drives. You will learn to diagnose and clear simple hardware faults and software errors. You will thus be capable of reducing downtimes in your plant. You can deepen your theoretical knowledge with numerous practical exercises on a TIA system model. This consists of a SIMATIC S7 automation system, ET200SP distributed I/O, Touchpanel, drive, and a belt driven model conveyor.

[Also available as Face-To-Face Training](#)

### Objectives

On completion of this course the participant will be able to do the following:

Understand the fundamentals of interaction of the TIA components

Observe the automation system using "Project View" in the "TIA Portal" engineering platform

Analyse, change, and expand small STEP 7 programs

Configure, parameterize, and exchange SIMATIC S7 hardware modules

Diagnose simple hardware faults caused by the wiring fault connector

Diagnose and correct simple program errors using the block editor

Perform commissioning of TIA components

Develop a working system comprising a CPU, HMI, Distributed I/O, Operations Panel, Conveyor System and a Drive

### Content

Overview and significant performance characteristics of the SIMATIC S7 system family.

Program execution in automation systems.

Binary and digital operations.

Symbolic and Absolute Addressing.

Setup and assembly of the automation system.

Monitoring and modifying I/O addresses.

Addressing and controlling the conveyor system.

Hardware and software commissioning of components within the SIMATIC S7 automation system using TIA Portal.

SIMATIC S7 Module, hardware configuration and parameterisation.

Installation and Integration of the Touch Panel (TP700).

Installation and Integration of the Sinamics G120 drive.

Installation and Integration of the PROFINET IO system (ET-200SP).

PROFINET IO system configuration.

Saving and documenting the implemented program changes with TIA Portal.

Uploading and Re-installing the contents of the CPU Memory.

Increased understanding of course contents through 'guided' practical exercises on TIA system model.

### Prerequisites

An awareness of automation technology.

Knowledge of Microsoft Windows.

You can use the online tests below to find out whether you have sufficient prior knowledge to participate effectively in the course you wish to attend. If you answer more than 70 % of the questions correctly you are well prepared to take part in the course.

### [Test TIA-SERV1](#)

For this "online training" you will need a computer with Windows 7 or better Windows 10 and a stable internet connection. We recommend a data transfer rate of 50 Mbit/s. You will require Google Chrome as Internet browser to access a virtual whiteboard and to use our TIA cloud solution. The platform for this training is Microsoft Teams. We recommend installing the Microsoft Teams app for the best possible use of all functions.

### Note

This course is not a Programming Course (although programming elements exist within), for Programming, please consider the 'TIA Portal Programming 1 Course'.

This course is also suitable for those using S7-1200 based systems. This training course is not appropriate for trainees using S7-200, S7-300 or S7-400 based systems. For more information concerning details of S7-300, and S7-400 please see the section called Simatic S7 PLC.

### Type

Online-Training

### Duration

5 days

**Language**

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en

**Fee**

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2,670 GBP