

TIA Portal Programming - Part 1 (TIA-PRO1)

Short Description

TIA Portal Programming

Objectives

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 programming 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 standard PLC programming.

You also receive an overview of HMI, PROFINET IO, and connecting drives.

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, drive, and a belt model.

After attending the 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.

This blended learning course combines web-based training on the Internet with a 5-day attendance course: To prepare for the attendance course, you will receive the web-based training course (WBT) "PLC Knowledge for Beginners" and "SIMATIC TIA Portal Structured Programming". This allows you to improve your personal learning achievement in the attendance course.

Target Group

Programmers, commissioning engineers, configuring engineers

Content

Overview and significant performance characteristics of the SIMATIC S7 system family

The components of the TIA Portal: STEP 7, WinCC, communication

Program execution in automation systems

STEP 7 block types and program structuring

Binary and digital operations in the function block diagram (FBD)

Programming of parameterizable blocks

Data management with data blocks

Programming organizational blocks

Test tools for system information, troubleshooting, and diagnostics

Hardware configuration and parameterization of the SIMATIC S7-300 modules, a PROFINET IO system (ET-200S), a Touch Panel, and a drive (Micromaster 420)

Program documentation and saving

Deeper understanding of contents through practical exercises on TIA system model

Prerequisites

Basic knowledge of automation technology

You can use the available online entry test to ensure that the selected course matches your area of expertise.

Note

In this course you will work with the SIMATIC STEP 7 software based on TIA Portal.

Type

Face-to-face training

Duration

5 days

Language

English