

## TIA Portal Programming - Part 1 (TIA-PRO1.)

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### Short Description

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TIA Portal Programming

### Objectives

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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, Touchpanel, 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

### Target Group

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Programmers  
Commissioning engineers, configuring engineers

### Content

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- 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 S7-1500 modules, a PROFINET IO system (EP200SP), a Touch Panel, and a drive (G120 drive)
- Program documentation and saving
- Deeper understanding of contents through practical exercises on TIA system model

### Prerequisites

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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

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

### Type

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Online-Training

### Duration

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5 days

### Language

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### Fee

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