

## Simatic TIA Portal programming 1 för plc (TIA-PRO1)

### 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 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 and PROFINET IO.

As a part of this training, you will receive free trial to the digital learning platform SITRAIN access. This gives you access to many web-based training courses 7 days before the start of the course and the test period ends automatically 14 days after the end of the course. [Mer information om SITRAIN access](#)

In SITRAIN access you will find web-based trainings on Automation Basic (Curriculum) as well as other topics such as TIA Portal – Structured programming and many more. As an introduction to the digital learning platform, we recommend the following learning paths: [Automation Basic](#)

[TIA Portal – Structured programming](#)

### Objectives

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

You can deepen your theoretical knowledge with numerous practical exercises on a TIA system model. This consists of a SIMATIC S7-1500 automation system, ET 200SP distributed I/O, Touchpanel TP700, and a belt model.

### Target Group

Programmers  
Commissioning engineers  
Engineering personnel

### Content

- System overview Simatic S7
- Introduction to the TIA Portal
- Configuration and parameterization of hardware
- Introduction to Profinet communication
- Program editor
- Block types and structured programming
- Variables, addressing and data types
- Logical functions
- Comparators, counters and timers
- Diagnostics and program test
- Storage of data in memory and data block
- Handling of analogue values
- Introduction to HMI/WinCC Comfort

### Prerequisites

Programmers that are experienced with PLC and PLC programming.

### Type

Face-to-face training

### Duration

4 days

### Language

sv

### Fee

23,700 SEK