

SIMATIC Programmazione 2 in TIA Portal (TIA-PRO2)

Short Description

The Totally Integrated Automation Portal (TIA Portal) forms the work environment for integrated engineering with SIMATIC STEP 7 and SIMATIC WinCC. The second part of the SIMATIC S7-1500 programming training is based on the knowledge of the TIA Portal gained in the SIMATIC S7-1500 Programming 1 course, including SIMATIC STEP 7 (TIA Portal), SIMATIC S7, SIMATIC HMI, connection of drives SINAMICS, and PROFINET IO. You will expand your knowledge of complex operations and you get an introduction in the programming language statement lists (STL/AWL), Structured Control Language (SCL) and SIMATIC S7-GRAPH. Along with analog value processing and data administration with complex data types, the evaluation and handling of program-related errors are also considered. Building on this, you will learn how to display messages on the operator control and monitoring system (SIMATIC HMI). Thanks to the knowledge imparted, you will gain new impetus and ideas for efficient PLC programming.

Objectives

After attending the course, you can do the following:

- Understand the interaction of TIA components
- Apply classical program development methods
- Solve comprehensive programming tasks
- Program advanced functions such as indirect addressing in STEP 7 (TIA Portal)
- Implement data administration with the SIMATIC S7 automation system
- Apply system blocks along with blocks from the standard STEP 7 (TIA Portal) library
- Program classical software error handling and evaluation
- Configure alarms of the operator control and monitoring system (SIMATIC HMI)
- Configure TIA system components consisting of SIMATIC S7, SIMATIC HMI, PROFINET IO and drive SINAMICS

Target Group

Programmers
Commissioning engineers
Engineering personnel

Content

- Tools for program creation (e.g. structograms)
- Analog value processing
- Functions, function blocks, and multi-instances using the IEC-compliant timer/counter as an example
- Jump commands
- Indirect addressing
- Classical software error handling and evaluation with error organization blocks (OBs)
- Evaluation of diagnostic data
- Troubleshooting and alarms with an HMI device
- Introduction into Structured Control Language (SCL) and SIMATIC S7-GRAPH

Theoretical knowledge will be deepened with numerous practical exercises on a TIA system model. This consists of a SIMATIC S7-1500 automation system, a SIMATIC ET 200 distributed I/O, a SIMATIC WinCC Advanced operator control, a SINAMICS G120 drive and a conveyor model.

Prerequisites

S71500P1 course or equivalent knowledge of the SIMATIC S7 system.

Note

At the end of the course you can deepen the topics covered through our **SIE-learning 4.0**: SIE-TMENG, SIE-GRAPHC, SIE-PRDIAG, SIE-VARNT, SIE-PNADV, SIE-PNDIAG, SIE-PSIMAD, SIE-OPCUA.

In this course, the SIMATIC S7-1500 automation system and the SIMATIC STEP 7 (TIA Portal) software are used; MICRO1 and MICRO2 courses are available for the SIMATIC S7-1200 automation system.

Type

Face-to-face training

Duration

5 days

Language

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