SIEMENS

SIMATIC Programmazione 3 in TIA Portal (TIA-PRO3)

Short Description

The Totally Integrated Automation Portal (TIA Portal) forms the work environment for integrated engineering with SIMATIC STEP 7 and SIMATIC WinCC. The third part of the SIMATIC S7-1500 programming training is based on the knowledge of the TIA Portal gained in the SIMATIC S7-1500 programming courses 1 and 2, including SIMATIC STEP 7, SIMATIC S7, SIMATIC HMI, connection of drives SINAMICS and PROFINET IO. You will expand your knowledge regarding the reusability of STEP 7 blocks and their storage in user libraries. You get an introduction in SIMATIC ProDiag. You will create user-specific blocks for reporting, handling and analyzing program errors. To save the machine data, you will learn how to manage recipes in SIMATIC HMI (operator control and monitoring system). You will set up communication between SIMATIC CPUs based on Industrial Ethernet. The comprehensive knowledge that is imparted to you will allow you to shorten configuration times and to react flexibly to the need to optimize your plant.

Objectives

After attending the course, you can do the following:
- Understand the principle of object-oriented programming
- Program reusable STEP 7 blocks based on IEC 61131-3 in an object-oriented manner
- Create usable blocks as well as user libraries
- Program STEP 7 blocks for program-related error handling and evaluation
- Program alarm messages
- Configure data administration with SIMATIC HMI recipes
- Configure CPU-CPU communication via Industrial Ethernet

Target Group

Programmers
Commissioning engineers
Engineering personnel

Content

- Commissioning of the TIA system model with distributed I/O on PROFINET IO
- Functions, function blocks, and multi-instances
- Reuseable blocks and optimized data access
- Indirect addressing of complex data structures and parameters ARRAY*, VARIANT, REF_TO und DB_ANY
- Block versioning in Project and Global Libraries
- Administration of a recipe database in the operator control and monitoring system (HMI)
- Creating alarms (with Program_Alarm and in the diagnostic buffer) with an HMI device
- SIMATIC ProDiag
- CPU-CPU communication via Industrial Ethernet
- Using technology functions PID controller and drive functions
- Overview of the engineering tools for all aspects of the TIA Portal

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

S71500P2 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

it