SIEMENS

SIMATIC Programming 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 TIA Portal programming training is based on the knowledge of the TIA Portal gained in the SIMATIC S7 TIA Portal programming courses 1 and 2, including STEP 7, SIMATIC S7,HMI, connection of drives, 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 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

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

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 (Touchpanel)
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
Deeper understanding of contents through practical exercises on SIMATIC S7-1500 system model

Prerequisites

SIMATIC S7 knowledge corresponding to TIA-PRO2 or TIA-SYSUP and practical experience in using the knowledge
You can use the available online entry test to ensure that the selected course matches your area of expertise.

- Online Assessment Test

Note

In this course you will work with SIMATIC S7-1500 and software SIMATIC STEP 7 based on TIA Portal.
This is the third of three courses that prepare you for certification as a "Automation Technician Projecting acc. ZVEI, based on the TIA Portal" (CPT-FAP). The examination is a "SITRAIN Certification Program" module.

CPT-FAP

Type

Face-to-face training

Duration

5 days

Language

en

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