SIEMENS

TIA Portal Programming 3 Course (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 will learn how to use the library concept to manage versioning of objects, so called typification and also working with indirect addressing. 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). There will be an introduction to safety integrated concepts. You will set up communication between SIMATIC CPUs based on Industrial Ethernet. Working with Technology Objects for Positioning Axis and simple closed-loop control. 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
- Understand typification and working with indirect addressing
- Program STEP 7 blocks for program-related error handling and evaluation
- Program alarm messages
- Insight to Process Diagnostics
- Configure data administration with SIMATIC HMI recipes
- Configure CPU - CPU communication via Industrial Ethernet
- Application of Technology objects
- Insight to functional safety

Target Group

Programmers
Commissioning engineers
Engineering personnel

Content

Functions, function blocks, and multi-instances
Creation and application of complex data structures
Library concept
Indirect addressing of complex data structures and parameters
Library functions for integrated error handling through fault masking
Implementing Process Diagnostics
CPU - CPU communication via Industrial Ethernet
Administration of a recipe database in the operator control and monitoring system (HMI)
Commissioning of the TIA system model with distributed I/O on PROFINET IO
Configuration and application of Technology Objects
Introduction to functional safety
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 attendance on the Siemens TIA-PRO2 or TIA-SYSUP and practical experience in using the knowledge.

Note

In this course you will work with SIMATIC S7-1500 and software SIMATIC STEP 7 based on TIA portal .

Type

Face-to-face training

Duration

5 days

Language

en

Fee

2,670 GBP