

# TIA Portal Programming - Part 2 (TIA-PRO2)

## Short Description

TIA Portal Programming

## Aims and Objectives

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 TIA Portal programming training is based on the knowledge of the TIA Portal gained in the SIMATIC S7 TIA Portal programming 1 course, including STEP 7, SIMATIC S7, HMI, connection of drives, and PROFINET IO. You will expand your knowledge of complex operations in statement lists (STL) and in Structured Control Language (SCL). Along with analogue 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 (HMI). Thanks to the knowledge imparted, you will gain new impetus and ideas for efficient PLC programming.

You can deepen your theoretical knowledge with numerous practical exercises on a TIA system model. This consists of a SIMATIC S7 automation system, ET200 distributed I/O, Touch panel, and drive.

## Content

Tools for program creation (e.g. structograms)

Analogue value processing

Functions, function blocks, and multi-instances using the IEC-compliant timer/counter as an example (International Electro technical Commission)

Jump commands and battery operations

Indirect addressing

Classical software error handling and evaluation with error organization blocks (OBs)

Evaluation of diagnostic data

Troubleshooting and alarms with an HMI device (Touch panel)

Introduction into Structured Control Language (SCL) and S7-GRAPH

Deeper understanding of contents through practical exercises on TIA system model.

## Prerequisites

Completion of the TIA-SERV2 or TIA-PRO1 course.

## Type

Face-to-face training

## Duration

5 days

## Language

English