SIEMENS

SIMATIC Programming 1 in the TIA Portal (TIA-PRO1)

Short Description

• The Totally Integrated Automation Portal (TIA Portal) forms the work environment for integrated engineering with SIMATIC STEP 7 and SIMATIC WinCC. In this first part of the SIMATIC TIA Portal programming training, we teach you the handling of the TIA Portal, basic knowledge about the structure of the SIMATIC S7 automation system, configuration and parameterization of hardware, and the basics of standard PLC programming. You also receive an overview of HMI, PROFINET IO, and connecting drives. Also available as online-training

Objectives

• After attending the course, you can do the following:
• Understand the fundamentals of interaction of the TIA components
• Solve simple programming tasks using elementary STEP 7 instructions
• Reliably operate the "TIA Portal" engineering platform
• Program simple plant functions with basic STEP 7 instructions in the ladder
• diagram (LAD) or function block diagram (FBD)
• Perform simple commissioning of TIA components
• You can deepen your theoretical knowledge with numerous practical exercises on a TIA system model. This consists of a SIMATIC S7-1500 automation system, ET 200SP distributed I/O, Touchpanel TP700, drive SINAMICS G120 and a conveyor belt model.

Target Group

• Programmers
• Commissioning engineers
• Engineering personnel

Content

• Overview and significant performance characteristics of the SIMATIC S7 system family
• The components of the TIA Portal: STEP 7, WinCC, Startdrive
• Program execution in automation systems
• STEP 7 block types and program structuring
• Binary and digital operations in the function block and ladder diagram (FBD/LAD)
• Programming of parameterizable blocks
• Data management with data blocks
• Programming organization blocks
• Test tools for system information, troubleshooting, and diagnostics
• Hardware configuration and parameterization of the SIMATIC S7 modules, a PROFINET IO system (ET-200), a Touch Panel, and a drive
• Program Cycle, Process Image and Process Image Partition
• Explanationn and using different organization blocks
• Startup of a drive (G120) and cummunication with standard telegram 1
• Deeper understanding of contents through practical exercises on the SIMATIC S7-1500 system model

Prerequisites

• Basic knowledge of automation technology
• You can use the available online entry test to ensure that the selected course matches your area of expertise.

Note

• In this course you will work with SIMATIC S7-1500 and software SIMATIC STEP 7 based on TIA Portal – for SIMATIC S71-1200 we offer the trainings TIA-MICRO1/2.
• This is the first of three courses that prepare you for certification as a "Siemens Certified Programmer, based on the TIA Portal". The examination is a "SITRAIN Certification Program" module.

Type

Face-to-face training

Duration

5 days

Language

en

Fee

31,110 ZAR

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