

Corso intermedio TIA Portal per integratori e personale di service (TIA-INT2)

Short Description

The course provides a structured and comprehensive set of skills for developing advanced applications on SIMATIC S7 automation systems, adopting a holistic approach that considers the integration of control logic, human-machine interface, and drive systems. Advanced programming techniques will be covered, including modular software structuring, the use of complex function blocks, and optimized management of cyclic and acyclic communications. You will also learn how to design operational screens on SIMATIC Unified HMI using dynamic controls and configure SINAMICS drives by parameterizing setpoints and key control variables.

Objectives

- Process analog values
- Execute complex data processing using system functions
- Implement alarm management in a SIMATIC HMI Unified application
- Exchange data between PLCs using cyclic and acyclic communication
- Parameterize a SINAMICS drive according to your specific requirements
- Use advanced diagnostic tools integrated in TIA Portal

Target Group

- System integrators
- Commissioning personnel
- Service personnel
- After-sales staff

Content

- Advanced program structures: FBs and multi-instance
 - Analog variable management
 - Optimized data blocks
 - Complex data (Slice access, Arrays using dedicated instructions Array[*], AT_Construct, Gather and Scatter)
 - Basic and typical instructions of the SCL programming language
 - SIMATIC HMI Unified: screen creation using the Screen Windows tool, basic elements (buttons, IO fields), alarm management
 - I-Device communication between two SIMATIC S7 PLCs
 - Acyclic communication (TCP/IP, S7 connection)
 - Advanced diagnostic tools (Web server, organizational blocks, Trace, program-based diagnostic instructions)
 - Introduction to Fail-safe systems: basic concepts and I/O module parameterization
- SINAMICS drives: typical telegrams, main p/r parameters

Theoretical knowledge will be deepened through numerous practical exercises on a TIA system model. This includes a SIMATIC S7-1500 automation system, a SIMATIC ET 200SP decentralized I/O system, a SIMATIC WinCC Unified operator control and monitoring system, a SINAMICS G120 drive, and a conveyor belt model.

Prerequisites

TIA-INT1 course or equivalent basic knowledge of automation systems.

Type

Face-to-face training

Duration

4 days

Language

it