

SIMATIC - Motion Control in the TIA Portal (TIA-MC)

Short Description

In this course, you will learn to program the motion control functions integrated in the SIMATIC S7-1500 or S7-1200 controllers using TIA Portal. Core topics are the technology objects speed axis, positioning axis and synchronous axis with practical exercises on training devices (SIMATIC S7-1500 and SINAMICS).

[Also available as online-training](#)

Objectives

You will program the SIMATIC S7-1500 or S7-1200 controllers in the TIA Portal. You will be able to precisely control the motion of axes with the integrated motion control functions. In this technology course, you will learn step by step the benefits and the use of these functions. After each learning step, you will deepen your knowledge with hands-on programming. After attending the course you will understand the interaction of the technological functions. You will be able to select and configure appropriate technology objects, such as speed axis, positioning axis and synchronous axis, and integrate them in your program.

Target Group

Programmer
Commissioning engineers
Engineering personnel

Content

Basics of motion control
SpeedAxis technology object
PositioningAxis technology object
Homing and traversing movements
Programming with PLCopen
Error messages and diagnostics
Communication and libraries
Output cam and measuring input
SynchronousAxis technology object
Absolute and relative gearing
Strategies for synchronization and desynchronization
Cam disc creation using the graphical cam editor and during runtime
Closed-loop control and optimization
Interplay between Motion Control and Safety Integrated
Cam disc creation using libraries
Practical exercises on training devices with SIMATIC S7-1500T and SINAMICS drives

Prerequisites

Knowledge of programming in the TIA Portal (equivalent to knowledge after completion of the TIA-PRO1 or TIA-SERV2 course)

Note

Over the year 2022, the courses TIA-MC1 (3 days) and TIA-MC2 (2 days) will be combined to form the course TIA-MC (5 days). The content remains unchanged.

Type

Face-to-face training

Duration

5 days

Language

en