

## SINAMICS S120 - Optimization for Fiber Industry (DR-S12-FI)

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### Objectives

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You already know the control structure of the drive system SINAMICS 120 and use the automatic optimization as well as the trace function. In this course you learn how you reach the highest dynamics and accuracy of the drive axis in fiber industry applications. After the course visit you understand the interplay of mechanics, motor and drive converter. You can examine the system by means of frequency analysis and parameterize filters against unwanted vibrations correctly.

### Target Group

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Commissioning and service engineers in fiber industry

### Content

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Machine layouts and software architecture for fiber industry  
Installation check, stray currents and liquid cooling  
Setpoint structure and control system theory  
System analysis in time and frequency domain  
Nyquist and Bode diagram, transfer function  
Control elements and filters  
Stability criteria and tuning methods:

- Heuristic
- Gain Optimum
- Symmetric Optimum

Tuning of current, speed and technology controller  
Cascaded control, feed forward and reference model  
Controller adaptation and linearization  
Application examples for sizing and tuning:

- Two mass system and multi mass system
- Mechanically coupled drives and load sharing
- Winders and web tension control

Practical exercises at SINAMICS S120 with SIMOTICS synchronous motors

### Prerequisites

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Good knowledge of parameterization and commissioning of SINAMICS S120 in accordance with course DR-S12-PM (formerly DR-SNS-SI).

### Note

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none

### Type

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Face-to-face training

### Duration

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5 days

### Language

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