

CNC - SINUMERIK Solution Line

840Dsl Safety Integrated for OEMs

General Information

Course Code: SCT-SNDSL11A
Length: 4½ Days

Audience

German Course Code equivalent: NC-84SLSIW.

This advanced course is designed for controls engineers and service specialists who configure and commission the SINUMERIK 840D sl Safety Integrated (SI) functions in machine tool applications. The student will receive a certificate after successfully completing the course.

Prerequisites

- 840Dsl Maintenance 1 w/ Operate
- AND
- S7 Programming 1

Profile

3.0 CEUs (Continuing Education Credits)

During this course, the student will learn about configuring and commissioning the function Safety Integrated using the SINUMERIK 840D sl. Practical exercises with Siemens test units concerning configuring, commissioning and servicing will be a major part of this training course.

At the end of the course, the learner will be extremely familiar with the function Safety Integrated using the SINUMERIK 840D sl. The student will learn to independently configure, test and commission specific installation configurations with safety functions. This enables the learner to make full use of the advantages of Safety Integrated on the machine tool.

The course format is a combination of instruction and hands-on exercises. Students will perform practical exercises related to configuring and commissioning the Safety Integrated aspects of the 840D sl.

Objectives

Upon completion of this course, the student shall be able to:

- Identify the concepts of safety technology and the system requirements for Safety Integrated.
- Have a working knowledge of safety-oriented inputs and outputs for PROFISafe Modules.
- Commission, describe, and use SAFE Machine Data and interface signals related to Safety Integrated Inputs and Outputs.
- Commission Safety Integrated systems with SAFE SPL (Safe Programmable Logic)
- Commission Safe Operational Stop, Safe Standstill, Safe Velocity, and Safe Cams.
- Commission SAFE limits and describe the User Agreement and its' implications.
- Commission and perform Test Stop procedures.
- Commission and perform the Force Checking Procedure.
- Commission and perform the Brake Test Procedure.
- Perform error detection procedures related to Safety Integrated applications.
- Commission and Diagnose PROFISAFE PLC I/O with STEP 7.
- Perform and document the Safety Acceptance Test procedure.
- Identify and correct Checksum errors.

Topics

- System requirements
- General information on safety technology; new standards
- Description of the safe basic functions
- Procedure during startup and troubleshooting
- Description of the machine data and interface signals
- Safe Programmable Logics
- Safe Communications with PROFISafe
- Evaluation of diagnosis and alarm displays
- Test stop
- Sensor / actuator integration with switching examples
- Safe brake management
- Acceptance test with SINUMERIK OPERATE
- Practical exercises on training devices