

## SINUMERIK ONE and SINUMERIK 840D sl Safety Integrated Commissioning (F-PLC) (NC-SAF-SIW)

### Short Description

This course provides you with knowledge for the project planning and startup of the Functions of Safety Integrated (F-PLC) for SINUMERIK ONE and Safety integrated (plus) for SINUMERIK 840D sl. You will learn how to select suitable functions as well as how to implement and validate them.

### Objectives

This course teaches the handling of the safety functions of SINUMERIK Safety Integrated (F-PLC). This safety variant using the F-PLC is required for the SINUMERIK ONE, but can also be used with the SINUMERIK 840D sl. The PLC is configured and programmed with the TIA Portal.

You will learn how to apply the different safety functions and know their parameterization, programming and test.

In the course, You perform all the steps, from the activation, parameterization and programming of the functions up to the acceptance test with protocol. This allows you to make the most of the benefits of Safety Integrated (F-PLC) for your machine tool.

### Target Group

Commissioning engineers  
Engineering personnel  
Service personnel

### Content

General information on safety technology and standards  
System requirements  
TIA Safety for the SINUMERIK F-PLC; Differences S7-300 (840) and S7-400 (ONE)  
Description of the safety functions; Differences to Safety Integrated (spl)  
Safe programmable logic in the F-CPU  
Safe communication with PROFIsafe  
Sensor/actuator integration  
Safe Brake Management and Test stop with SIC/SCC  
Adaptation of the safety functions by parameterizing the drives and creating the F-program  
Procedure for commissioning and troubleshooting  
Evaluation of diagnostic and alarm displays  
Circuit examples for Safety Integrated  
Acceptance test  
Practical commissioning exercises with a SINUMERIK training rack

### Prerequisites

Knowledge according to the course NC-84SL-SIP or NC-ONE-SIP or NC-ONE-UP  
Programming knowledge with TIA Portal according to the courses TIA-SYSUP or TIA-PRO1

### Note

This training is the successor of the Safety PLUS startup training NC-PLUS-SIW .  
It contains additionally all information needed to startup SAFETY Intergrated for the SINUMERIK ONE.

### Type

Face-to-face training

### Duration

5 days

### Language

en