

## Programming Safety Related S7 PLC via STEP 7 Safety Advanced for SIMATIC TIA Portal (TIA-SAFETY)

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### Short Description

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The Totally Integrated Automation Portal (TIA Portal) forms the work environment for integrated engineering with SIMATIC STEP 7 and SIMATIC WinCC. In this course, you will learn about configuring, programming, starting up, diagnosing and troubleshooting of the failsafe CPUs of the SIMATIC S7 Safety PLC (note: not relevant for H systems) and the failsafe distributed ET200 systems. You will put your theoretical knowledge to use the training system SIMATIC S7-1500F with the STEP 7 Safety Advanced software in practical exercises.

### Objectives

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After attending the course, participants should be able to do the following:-  
Starting up failsafe CPUs of the SIMATIC PLC  
Programming of safety-related programs in the languages F-FBD and F-LAD  
Diagnosing and troubleshooting of safety-related programs.

Combine your course with web-based trainings on our digital learning platform for industry and thus increase your personal learning success in the face-to-face course. On SITRAIN access you will find further topics, for example, TIA Portal, PROFINET or data communication with Industrial Ethernet, digitization, ...

As part of your course booking, you will receive free test access for the digital learning platform:

[Click here for information about SITRAIN access](#)

You have access to over 270 web-based training 7 days before the start of the course. The test period automatically ends 14 days after the end of the course.

As an introduction to the digital learning platform, we recommend the following learning path:

[TIA Safety Integrated Curriculum](#)

### Target Group

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Programmers  
Commissioning engineers  
Engineering personnel

### Content

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Overview and guidelines  
AS S7 Safety (principle, system configuration and I/O)  
Configuring of the failsafe I/O with STEP 7 Safety Advanced  
Programming of a safety-related user program  
Failsafe communication PROFSafe (CPU-CPU communication, master-slave communication)  
Diagnostics facilities (CPU diagnostics, I/O diagnostics, advanced diagnostics)  
Exercises for I/O configuration, communication, troubleshooting  
Programming examples (emergency stop, protective door, safety-related shutdown, passivation, special programming features  
Deeper understanding of contents through practical exercises on the system SIMATIC S7-1500F

### Prerequisites

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To attend this course, participants MUST have attended the TIA-SERV1 and TIA-SERV2 or TIA-PRO1 and TIA-PRO2 courses.

### Note

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In this course you will work with the SIMATIC STEP 7 software based on TIA Portal and SIMATIC S7-1500F hardware.

### Type

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Face-to-face training

### Duration

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3 days

### Language

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en

### Fee

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2,540 GBP

