

# F201

## PLC AC500 V2 Safety Course



The course primary goal is to educate the participant in the utilization of the ABB Automation Builder software to configure the AC500 PLC and the SM560-S Safety PLC. The participant can after the course work with the AC500 PLC and the SM560-S Safety PLC platform in conjunction with each other.

*Please note! Machine safety theory is not covered in this course.*

### Course type and methods

Instructor guided course in an interactive classroom, discussions and practical exercises.

Half of the time is spent on practical implementation and exercises of the AC500 PLC System and the SM560-S Safety PLC.

### Student Profile

This course is made especially for system integrators, programmers, operational start-up- and service engineers.

### Prerequisites

The participants need to have knowledge of PLC programming and to have worked with the AC500 system before. The AC500 V3 basic course is a good source for the basic knowledge about the AC500 PLC system. All course literature is in English. Participants are required to bring their own laptop computers with Automation Builder Standard installed. ABB University will provide installation guides both for software and software registration before the course.

### Duration

The duration is 2 days

### Course objectives

Upon completion of this course the participants will be able to:

- Knowledge about the AC500, AC500 Safety and the ProfiNet® / ProfiSafe® system

- Creating and editing projects in the ABB Automation Builder Software
- Setup and configuration of decentralized bus and safety solutions via ProfiNet® / ProfiSafe®
- Design and create a safety PLC application in one of the available IEC 61131-3 programming languages in the safety controller (ST, FBD or LD)
- Utilization of the standard system safety libraries
- Utilization of the PLCOpen safety library
- Diagnostics in Automation Builder and in the SM560-S safety PLC

### Main topics

- AC500-Safety system architecture
- SM560-S safety PLC system
- AC500 / SM560-S hardware configuration
- Decentralized IO- and safety- systems hardware setup and architecture
- Safety program organizational units (functions, function blocks and programs)
- AC500-safety and PLCOpen-safety library functionalities
- AC500-Safety I/O setup and diagnostics
- Safety checksums and ProfiSafe® stack diagnostics
- "Safety response time calculation"
- Decentralizes IO / Safety IO diagnostics through ProfiNet® / ProfiSafe®
- Safety system checklist