Advanced PLC Training System (Siemens)
Programming high-end Siemens PLCs and HMIs

FESTO

Hands-on experience on Siemens industrial control equipment

Programmable logic controllers (PLC) are the brains of complex automated production lines and process automation systems, and must be properly programmed to ensure safe and reliable operation. This requires a strong familiarity with the specifics of the programming environment and languages.

For students, practicing the techniques on real PLCs is necessary training for efficient preparation for the workplace.

The Advanced PLC Training System offers structured learning activities to acquire hands-on programming experience on Siemens industrial control equipment.

Benefits

- Develop industry-relevant skills for successfully performing automation and maintenance tasks.
- Work with Siemens software and hardware that are commonly used in industrial environments.
- Rely on comprehensive learning resources.

Advanced PLC Training System (Siemens)
## Programming high-end Siemens PLCs and HMIs

Through programming of realistic PLC application examples, students learn how to establish communication between devices, program PLC routines in various languages, and transfer projects to a high-end PLC and HMI.

Interdisciplinary training applications

During the exercises, the touchscreen displays an application and simulates corresponding sensors and actuators. The system itself provides a variety of controls and indicators to interact with the PLC.

In addition, real PLC applications from the LabVolt Series can also be connected to the system to simulate its inputs and outputs, so that students can control a physical device. A SysLink interface allows connection to Modular Production System (MPS®) stations.
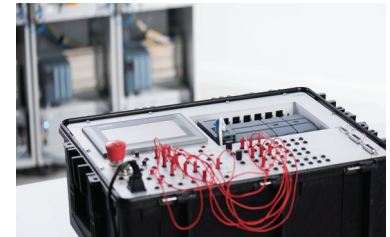
Turnkey courseware

The illustrated student manual introduces the necessary theory and guides the students step-by-step through the practical activities. Easy-to-read texts, screen captures, diagrams, review questions, tables, etc., contribute to increasing student autonomy during lab sessions. An optional E-Learning course is also available.

Learning objectives

- Become familiar with WinCC (TIA Portal)
- Use standard PLC instructions, and understand PLC addressing and operation
- Program in four different IEC 61131 languages: ladder (focus), sequential function chart, function block, and structured text.
- Design HMI
- Practice troubleshooting

Featured components

- Siemens S7-1200 Controller
- 7" widescreen TP700 Comfort Panel with PROFINET, MPI/PROFIBUS DP, and USB interfaces
- SCALANCE XB005 unmanaged industrial Ethernet switch
- Eight switches induce electrical faults during troubleshooting exercises.
- A one-seat license of the SIMATIC WinCC (TIA Portal) Engineering Software is included.