3-axis CNC:
- Safety setup (I/O mapping)
- T-Series Power Panel as terminal
- G-code
- Programming

Print mark with cross-cutter:
- CAM machine
- SPT
- Registration mark detection
- ACOPOS trigger inputs
- C-Series Power Panel as controller

Sorting and distribution:
- Team project
- PP500 as terminal
- Ethernet-based PLC-to-PLC communication
- Use of stepper motors
- Use of pneumatic elements

In addition to developing the essential technical skills, a 10-week training program at B&R Denmark offers the following benefits:
- Provides an opportunity to learn about new topics, methods, tools, etc.
- Takes you away from everyday work so you can look at it with fresh eyes, inspiring new approaches and ways of thinking
- Provides a controlled environment where you can explore new topics playfully
- Allows networking with like-minded people in the automation industry.

The price for the 10-week „Applied Automation Engineer" seminar includes:
- 7 weeks of training in Denmark provided by instructors who are experienced software developers
  with extensive experience in the automation industry
- All instructional materials
- Meals during training in Denmark (fruit, lunch and cake)
- 3 weeks of exercises in Austria with instructor
- Individual evaluation and assessment of the quality of work in Austria
- Breakfast and lunch on weekdays during training in Austria
- Hotel accommodations throughout the stay in Austria (not in Denmark)
- A sufficient number of shared rental cars during the stay in Austria

Expenses not covered by the seminar fee are:
- Transportation between Denmark and Eggelsberg, Austria
- Meals in the evenings and on weekends during the entire seminar
- Fuel for the rental cars made available in Austria

Integrated automation
Global presence
Solid partnership

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Seminars
Automation Academy
Denmark

PERFECTION IN AUTOMATION
A MEMBER OF THE ABB GROUP

Applied Automation Engineer by B&R Denmark

Innovating and sustaining advanced production systems requires well-educated, highly-trained employees. Training lays the foundation for building the level of employee competence that is crucial to a company's development and future competitiveness.
Competence, in this sense, involves the ability to turn knowledge, skills and methodologies into appropriate actions on the job. Thus, competence gained through continuing education and training is an important source of value creation within the company.
The right training and experience can turn a technician into an engineer and an engineer into an expert.
At B&R Denmark, we have developed an „Applied Automation Engineer" seminar. The 10-week program (7 weeks in Denmark and 3 weeks in Austria) provides participants with comprehensive theoretical understanding and hands-on experience in the following areas:

- Control technology
- Motion control
- HMI
- Safety technology
- Lean software development (revision control, SW architecture, etc.)

Our instructors are experienced software developers with extensive experience in the automation industry. The seminar is structured with a reasonable mix of theory and opportunities to apply the theory in practical exercises.

The seminar ends with a 3-week workshop at our headquarters in Eggelsberg, Austria. Here, participants get a chance to put their newly gained theoretical knowledge to work using 3 advanced hardware setups, where they implement machine functionality as defined in the specifications provided. Each of these projects is concluded with an individual evaluation and assessment of the quality of work. This evaluation is given to the participants in person, as well as being communicated back to the employer upon completion of the program in Austria.
This allows you to qualitatively assess the return on investment in your employees.
Workshop exercises:

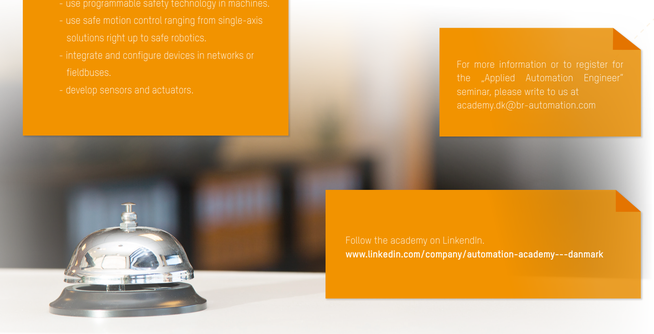
Automation Academy seminars

Seminar profile

Automation now requires extensive knowledge of technology in a wide range of areas. If any of your responsibilities are included in the following list, you will find a suitable seminar in the range of seminars we offer.

You...

- create automation concepts, implement them and use simulation.
- program sequence programs for machine controllers.
- use and develop software libraries.
- implement data management in automation systems.
- create, manage, change, optimize and expand programs and configurations.
- carry out machine commissioning, maintenance and diagnostics tasks.
- integrate electrical or hydraulic motion control in machine control systems.
- use electronically coupled axes.
- integrate CNC and robotic systems in machine control systems.
- draft and create process visualization applications.
- use programmable safety technology in machines.
- use safe motion control ranging from single-axis solutions right up to safe robotics.
- integrate and configure devices in networks or fieldbuses.
- develop sensors and actuators.



For more information or to register for the „Applied Automation Engineer" seminar, please write to us at academy.dk@br-automation.com

Follow the academy on Linkendin
www.linkedin.com/company/automation-academy---danmark

The modular seminar concept supports you with individual and structured knowledge acquisition. Basic seminars are an efficient starting point for contact with B&R technology in different areas. Our technology seminars deepen knowledge in individual branches of automation and require a solid base of previous knowledge. You utilize the imparted knowledge in practical exercises in our seminars. This way, you'll develop the skills you need in no time.

SEM210 - Basics
- B&R product overview
- Working with Automation Studio
- Project planning, configuration and diagnostics
- Operating system configuration and functionality

SEM250 - Memory management and data storage
- State machines and coding guidelines
- Memory, variables, arrays and structures
- Storing and managing data
- mapp Technology infrastructure

SEM410 - Integrated motion control
- The concept behind the B&R drive solution
- Testing environments and commissioning
- Motion control; Basic functions - mapp Technology
- Programming motion sequences

SEM441 - Electronic gears and cam profiles
- Linear couplings
- Electronic cam profiles
- Cam Profile Automat application
- Compensation mechanisms

SEM510 - Integrated safety technology
- Integrated safety technology
- Project creation and hardware configuration
- Working with SafeDESIGNER
- PLCopen safety function blocks

SEM540 - Integrated safe motion control
- Safe motion control operating principle
- Project development and configuration
- PLCopen safety function blocks
- Commissioning and maintenance

SEM611 - Creating an HMI application with mapp View
- Concept and architecture of mapp View projects
- Creating an HMI application in Automation Studio
- Serving and observing process values
- mapp View basics

SEM920 - Diagnostics and service for machines
- B&R system overview and topologies
- Functions and content of the B&R website
- Diagnostic possibilities with or without a PC
- Maintenance and module replacement

SEM9101 - Lean Software Development
- Use of KanBan board for project management
- Use of Tortoise hg for version control
- Working and explanation of PackML
- Benefits and working with machine simulation

Subject areas	Seminars
Control technology Programming and configuration in Automation Studio Control system commissioning and diagnostics Software development with IEC61131 programming languages Use and creation of libraries Data management and communication with the controller	SEM210 Basics → SEM246 programming with ST → SEM250 Memory management and data storage
Motion control Integrated motion control project development Commissioning and control loop optimization Flexible technology selection, various electric motors and hydraulics Implementation of programming standards, PLCopen and mapp Technology Integration of electronic gears, cam profiles, CNC and robotics	SEM210 → SEM410 Integrated motion control → SEM441 Electronic gears and cam profiles
Safety technology Configuration and programming in SafeDESIGNER Commissioning and diagnostics of safety systems Integration of safe motion control Integration of safe robotics	SEM210 → SEM510 Integrated safety technology SEM410 → SEM510 → SEM540 Integrated safe motion control
HMI applications and operation Project development and configuration of integrated HMI applications Localization, unit switching and user management Processing events and implementing dynamic objects	SEM210 → SEM611 Creating an HMI application with mapp View
Diagnostics & Service Strategy for the targeted use of diagnostic tools Diagnostics with and without software Obtaining replacement parts and module replacement *Optional additional day* Working with Automation Studio; Working on existing projects; Monitoring process variables	SEM920 Diagnostics and service for machines
Software Development Project management using KanBan as task board, and tortoise HG version control, for managing the program versions both in development fase and in serie production. Implementing project using PackML and using machine code simulation.	SEM9101 **Lean Software Development**

On demand

The trainings which are listed below, are only offered on demand. If you are interested in these, please inform yourself.
- POWERLINK
- openSAFETY

ETHERNET **POWERLINK**

SEM950 - POWERLINK configuration and diagnostics
- The basics of POWERLINK technology
- Use of service and diagnostics options
- POWERLINK network layout and optimization

SEM960 - POWERLINK basics + slave development
- POWERLINK slave development kit
- Commissioning a reference implementation
- Application interface and settings
- Testing options for POWERLINK connections

open **SAFETY**

SEM951 - openSAFETY technology and certification
- openSAFETY requirements and functions
- openSAFETY device description and integration
- openSAFETY profile
- openSAFETY certification

SEM961 - openSAFETY development kit
- openSAFETY node in Automation Studio
- Commissioning the openSAFETY development kit
- Device description and secure object directory
- Implementation of an openSAFETY device profile