Fit for KNX, IP and DALI
Certified training options in all areas of GAMMA building control
Siemens and the KNX Association – two strong partners for your success

KNX – the worldwide standard for home and building control – enables on-demand and cross-discipline control of room temperature and energy management as well as lighting and shading. Installed by qualified building control technicians, the intelligent networking of building automation products offers completely new ways to increase energy efficiency, security and comfort.

The certified training program from Siemens provides you with comprehensive and in-depth knowledge on every aspect of KNX. The GAMMA training kit offers you an extremely simple self-instruction option for training in a wide range of functions and applications, as well as for consolidating your knowledge and abilities in the KNX field – leading you step by step to success.

Certified further training
With our wide range of courses and practical trainings on all aspects of KNX, IP and DALI you can gain the extra edge you need to take the lead in the market. For your certified training and future-proof specialization, we offer you a wide choice of courses – from KNX certificate courses like the KNX basic course and the KNX trainer seminar to application-related courses including lighting, control and monitoring with KNX.

Putting theory into practice from the start
Our training courses offer a balanced mix of theory and practice and so contribute to your success in the market. Our high-quality training courses are distinguished by their high level of practical content.

Qualification as a KNX building control technician
You will receive the certificate if you have completed at least 12 training days from the GAMMA KNX training offer and passed the advanced course examination. Of course, the KNX basic course is already credited with 5 days if you have also completed it in our company.

GAMMA training kit (GTK) for training and presentations
The theory you learn in the training courses can now be put into practice with the help of our GAMMA training kit. It can be used to learn the most important functions of the GAMMA building control system and to demonstrate them clearly. This includes: lighting and shading control, heating/cooling simulation and the control of security systems – for example, alarm signals via window contacts.

The GAMMA training kit is especially valuable for vocational schools, trade guilds and other educational institutions. It can be used for specialized training in building control applications. The GTK is available as a modular system, so that it can be expanded at any time with additional modules and updated cost-effectively for future developments.

Practical learning made easy

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**Highlights**

- Fit for KNX, IP and DALI – for greater comfort, security and cost efficiency in buildings
- Comprehensive, certified training program
- Advanced training to become a KNX building control technician
- Practice functions and demonstrate them clearly with the GAMMA training kit.
### Overview of courses

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<thead>
<tr>
<th>Course title</th>
<th>Contents</th>
<th>Learning goals</th>
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<tbody>
<tr>
<td><strong>KNX/DALI diagnostics/troubleshooting</strong>&lt;br&gt;BC-KNXD</td>
<td>• KNX/PDL and DALI system knowledge&lt;br&gt;• Knowledge of the Engineering Tool Software (ETS)&lt;br&gt;• Maintenance and analysis of KNX, PDL, and DALI projects, eliminating errors and making corrections</td>
<td>• Ability to implement and operate the different options for KNX and DALI-based lighting controls</td>
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<tr>
<td><strong>IP basics KNXnet/IP</strong>&lt;br&gt;BC-IPBMV</td>
<td>• Internet protocols TCP/IP and UDP/IP&lt;br&gt;• Setting up networks&lt;br&gt;• Diagnostics in the LAN/Internet&lt;br&gt;• Starting up a WLAN router&lt;br&gt;• Coupling to a DSL router&lt;br&gt;• KNXnet/IP – the standard for KNX communication via IP networks&lt;br&gt;• Device types for KNXnet/IP&lt;br&gt;• Application areas for remote visualization&lt;br&gt;• via KNXnet/IP&lt;br&gt;• Properties of the KNXnet/IP Web server Siemens N152 (IPCC)&lt;br&gt;• Sample projects, navigation structure, site and container navigation&lt;br&gt;• Setting up the process points via the ETS project (objects and group address structure), creating the OPC export file&lt;br&gt;• Setting up the access paths via IP for graphical processing (VPN/port forwarding/DynDNS)&lt;br&gt;• Opening the editor and importing the ETS-OPC file, creating the sites and navigation structure&lt;br&gt;• Editing sites: background images, dynamic element library, dedicated icons, virtual objects&lt;br&gt;• Additional functions: logic, trend, scenes, mathematical calculations, alarm messages, etc.</td>
<td>• Learning the basics of IP technology and KNXnet/IP devices&lt;br&gt;• Acquisition of knowledge about the new KNX encryption technology KNX Secure&lt;br&gt;• Practicing possible applications in actual cases with ETS4&lt;br&gt;• Ability to create a Web server-based visualization for the KNX bus system</td>
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<td><strong>KNX trainer seminar GAMMA product training</strong>&lt;br&gt;BC-KNXT</td>
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### Application-specific courses

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<tr>
<td><strong>Lighting, controlling and diagnosis with KNX</strong>&lt;br&gt;BC-KNXDALI</td>
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**Ongoing courses**

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<tr>
<th>KNX trainer seminar</th>
<th>GAMMA product training</th>
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<tr>
<td>BC-KNX</td>
<td>BC-GPSC</td>
<td>1-4 days</td>
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**Training courses for KNX building control technicians**

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<td><strong>KNX advanced course</strong>&lt;br&gt;BC-KNXAD</td>
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<tr>
<td><strong>KNX/DALI diagnostics/troubleshooting</strong>&lt;br&gt;BC-KNXD</td>
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<td><strong>IP basics KNXnet/IP</strong>&lt;br&gt;BC-IPBMV</td>
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**All Courses can be booked via siemens.de/sitrain-knx**
# KNX certificate courses

<table>
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<tr>
<th>KNX basic course</th>
<th>KNX advanced course</th>
<th>KNX trainer seminar</th>
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<tr>
<td>BC-KNXBK, 5 days</td>
<td>BC-KNXA1, 5 days</td>
<td>BC-KNXT, 3 days</td>
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## Learning goal
- Learning of the basics of data transmission and KNX communication technology: project structuring, project planning, commissioning and service with the Engineering Tool Software (ETS)
- Planning and commissioning of complex KNX system solutions
- Obtaining a qualification as a certified KNX trainer; mastering the course content as well as background knowledge of the bus system in order to be able to answer questions asked during training

## Content
- **KNX technology**
- **Installation and mounting guidelines**
- **Design of the bus devices**
- **Design and function of the ETS**
- Planning and commissioning of a sample project with the most important building control functions
- **Capabilities of KNX building control:**
  - Lighting control
  - Logic, scenes
  - Various transmission media
  - Display and operation
  - HVAC applications
  - Safety technology, remote control and alarming
  - Remote parameterization and maintenance of KNX systems
- **Bus systems in building control and automation technology**
- **Structure and functions of the KNX Association**
- **Requirements for KNX training institutions**
- **KNX certification procedure**
- **OSI reference model and data transmission technology, with focus on KNX**
- **KNX microcontrollers**
- **Acquisition of in-depth ETS knowledge**
- **Regulations, standards, installation and mounting instructions**

## Target group
- Commissioning engineers, project planners, service personnel, maintenance staff
- Planners and installers of KNX systems, service personnel, project managers and teams
- Trainers, teachers, lecturers, trainers in adult education

## Requirements
- Knowledge of VDE 0100 installation technology and experience working with Windows PC
- Participation in the KNX basic course and practical experience with ETS and KNX projects
- Successful participation in the KNX basic course and KNX advanced course as well as knowledge of presentation techniques and adult education

## Exam
- Practical and theoretical KNX exam (duration: 2 x 1.5 hours)
- Final practical exam (duration: 2 hours)
- Final theoretical exam (duration: 2.5 hours)

## Additional information
The practical component of KNX certificate courses comprises about 50 percent.

## Certificate
After passing the respective exam, you will receive the corresponding KNX certificate.
**KNX in action – a case full of knowledge**

Fit for KNX, IP and DALI

Anyone who wants to work with the pioneering GAMMA building control system must be trained on KNX, IP and DALI. Because it’s KNX that connects the disciplines lighting, shading, heating and ventilation – for greater comfort, security and cost efficiency. KNXnet/IP offers solutions for location-independent networking, while the DALI bus is increasingly gaining acceptance in lighting technology. With the GAMMA training kit, you can clearly demonstrate to your customers the use of the GAMMA building control.

For use in schools

The GAMMA training kit is of particular interest to vocational schools, trade guilds and other educational institutions. For what’s the use if an electrical apprentice can manage standard jobs like wiring, but has no idea what to do with KNX, IP and DALI?

Demonstrating numerous functions

Every building places different demands on building control. That’s why you can use the GAMMA training kit to simulate a variety of applications:

- Conference rooms: dimmable lighting, blinds, heating, cooling, window contacts, wind alarm
- Staircase: lighting
- Offices: dimmable lighting, blinds
- KNX IP Secure: Secure communication via IP networks and the internet

The right equipment for every requirement

The GAMMA training kit offers maximum flexibility. The functions in detail:

- 6 x dimmable LED lights
- 6 x dimmable LED lights with DALI
- 4 x blinds simulation proportional with slat position
- Windows open/closed simulation
- Heating/cooling simulation proportional with LED
- Separate flush mounting application modules
- Display using touch panel and LAN module

You can upgrade or modify the GAMMA training kit at any time depending on your requirements. We have left plenty of room for your ideas. It’s even possible to connect additional devices via KNX, IP or DALI using plug-in connectors. The version of the GAMMA training kit that can be seen in the images is just one variant. Our modular concept allows for a whole spectrum of combinations and equipment options, especially regarding the user interface.

Easy to handle in a trolley case

We offer the GAMMA training kit in a trolley design. It is operated entirely from the front and so is very clearly laid out. The case also gives you storage space for accessories. All components including the distribution board panel, built-in devices and control elements are from Siemens. This ensures that they all match.

How to purchase the GAMMA training kit

Your regional Siemens representative will be pleased to provide you with the latest order information and price list.

Highlights

- Fit for KNX, IP and DALI – for greater comfort, security and cost efficiency
- Demonstrate the GAMMA building control clearly
- GAMMA training kits can be upgraded or modified at any time
- Also available as easy-to-handle trolley case and ready to use

Illustrate, simulate and master the applications of the GAMMA building control.

Sample projects are used to clearly demonstrate and practice the most important functions with the GAMMA training kit.

Numerous applications can be easily simulated with the GAMMA training kit.
Smart Infrastructure intelligently connects energy systems, buildings and industries to adapt and evolve the way we live and work.

We work together with customers and partners to create an ecosystem that intuitively responds to the needs of people and helps customers to better use resources.

It helps our customers to thrive, communities to progress and supports sustainable development.

Creating environments that care.
siemens.com/smart-infrastructure