

SIEMENS



# GAMMA building control

Comprehensive operating concept for all building functions

Answers for infrastructure.



# Intelligent and integrated building and room automation

The GAMMA building control is based on the proven, globally implemented standard KNX in accordance with EN 50090 and ISO/IEC 14543. KNX forms the basis for a comprehensive building automation in the electrical installation. Wireless systems can be incorporated during installation for increased flexibility. These include infrared and radio systems. These technologies are connected to KNX via gateways. Various display and operating elements to operate the room functions are available to the user with all technologies – from the simple pushbutton through multi-functional room control units up to web-based systems.

The GAMMA building control allows efficient building management through sensible room automation. And this with maximum comfort for the user.



# Improved energy efficiency with building control

## Highlights

- Room automation offers considerable savings potential
- GAMMA building control enables users to achieve energy efficiency class A
- Efficient building management through optimal room automation
- Consistent components provide optimum control of lighting, sun protection and room climate

## Efficiency through automation

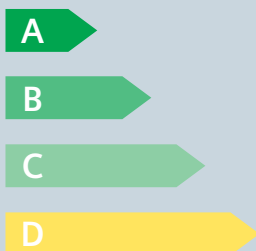
Considerable demands are placed on the energy efficiency of buildings today. The optimization of power supply, distribution and usage can reduce costs and reduce the strain on the climate. For example, in office buildings around 28 percent of all the electrical power is used for lighting. Here and in many other sectors, intelligent automation systems for buildings offer considerable potential for savings. Based on the standard EN 15232, the four efficiency classes from A to D illustrate the correlation between building automation and energy efficiency.

## Comfort for the user

The GAMMA building control is the answer for efficient building management: Sensible room automation means maximum comfort for the user and saves energy at the same time. Lighting, sun protection and room climate are optimally coordinated and can be adjusted to meet every requirement. Despite automation, the user always has the opportunity to control his working environment individually.

## Planning according to energy efficiency class

The choice of technology depends primarily on the required energy efficiency class. For a cost effective solution in class C, digital time switches and dusk switches are used to control heating, ventilation or air conditioning. If efficiency classes A or B are required, communication-capable systems such as the GAMMA building control are used. Their consistent components control lighting, sun protection and room climate, for example, and therefore help to save energy.



## Energy efficiency classes according to the EN 15232 standard

- Class A:**  
Highly energy-efficient building automation systems and technical building management
- Class B:**  
High-grade building automation systems and technical building management
- Class C:**  
Standard building automation systems (reference basis)
- Class D:**  
Non-energy-efficient building automation systems





The manufacturer-independent software ETS is used to plan and configure KNX systems.

# Engineering Tool Software (ETS)

## Commissioning of all KNX products

The ETS (Engineering Tool Software) is the manufacturer-independent tool software for the planning and configuration of intelligent home and building control with the KNX system; it runs under all versions of MS Windows®.

## Convincing benefits

The KNX Association, as the founder and owner of the KNX standard, offers with the ETS a configuration tool for planning, commissioning and diagnosis of KNX systems, with the following advantages:

- Guarantee of maximum compatibility of the tool with the KNX standard.
- All product databases with certified products from KNX manufacturers can be imported into the ETS.
- Backward compatibility of the ETS with product data and projects from earlier ETS versions (up to ETS2) secures previous work results and facilitates continued processing.
- Throughout the world, all planners and installers use one and the same tool for each KNX project and for each KNX certified device. Reliable data exchange is therefore guaranteed.

## Universally usable

The ETS is directed at all KNX system users, from the beginner up to the skilled and experienced KNX partner or installer.

## Always at the forefront of technology

ETS4 Professional, the latest and most comprehensive ETS release, is the powerful successor to ETS3. When implementing home and building control projects of all sizes, ETS4 Professional supports and optimizes the users' work in the following phases:

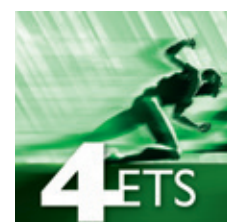
- Project planning & design
- Commissioning
- Project documentation
- Diagnostics and troubleshooting

## More information

[www.knx.org/knx-tools/ets4/](http://www.knx.org/knx-tools/ets4/)

## Highlights

- Manufacturer-independent configuration tool
- Maximum compatibility of the ETS with the KNX standard
- Universally usable – from planning to troubleshooting
- Comprehensive project documentation, available simply by pressing a button





Various display and operating elements to operate the room and building functions are available – from the simple pushbutton up to web-based systems.

# For more comfort and efficiency in the building

## Building automation is KNX

Increasing demands for comfort, safety and efficiency require ever-more stringent installation concepts combined with intelligent, multi-utility control of all technical components. For lighting, sun protection and room climate, KNX technology offers safe and reliable control and monitoring of the functions in the building. Various wireless systems with infrared and radio technology can be integrated into the installation via gateways in order to operate the room functions. This allows a flexible installation of operating elements and sensor systems – without cable. In this way, changes of usage can be implemented quickly and easily.

## Unlimited display and operation

To guarantee optimal operation of room and building functions, a wide range of display and operating elements are available – from the simple pushbutton, handheld and wall-mounted transmitters for KNX, infrared, KNX-RF and EnOcean, through multi-functional room control units up to browser-based systems.

## Operating the room functions

Standard operating elements are available in 1 to 4-fold versions – to operate room functions such as lighting, shutters or scenes. There are remote control systems, based on infrared and radio technologies, for increased flexibility. Multi-functional room control units control numerous functions and show all the information at a glance conveniently on a display.

## Display and operation in the building

Functions can be displayed and operated centrally via the touch panel. With a web-based monitoring and operating system, you can conveniently control and monitor functions inside one or a number of buildings.

## Highlights

- Building and room automation based on the world-wide, open standard KNX
- Simple, comprehensive operating concept
- Simple system expansion with the EnOcean and GAMMA wave radio technologies
- Operating elements available in numerous designs

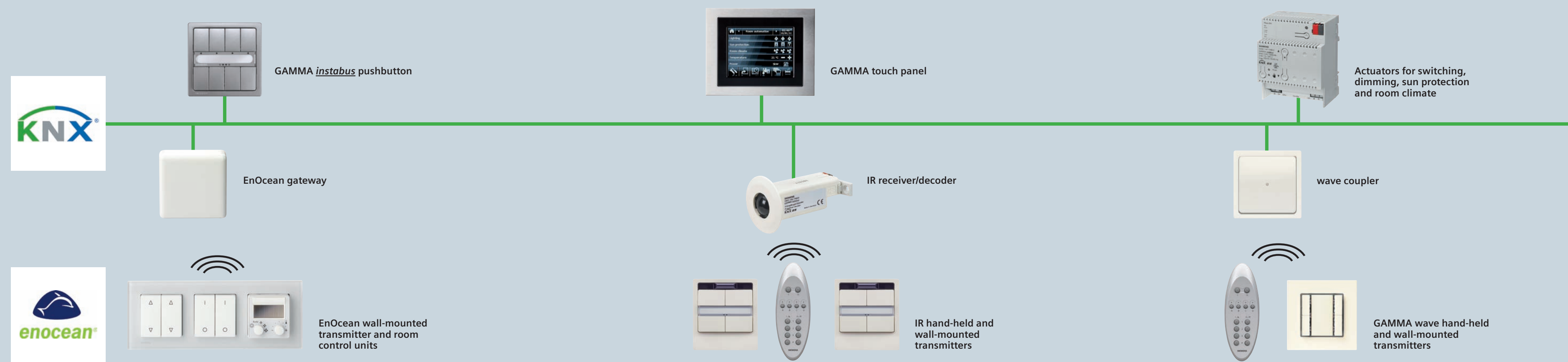
The world-wide standard for home and building control



GAMMA building control – energy-efficient building and room automation

GAMMA *instabus* – KNX

GAMMA *instabus* is based on the proven, globally implemented standard KNX in accordance with EN 50090 and ISO/IEC 14543. KNX forms the basis for a comprehensive building automation in the electrical installation. Wireless systems can be incorporated during installation for increased flexibility. These include infrared and radio systems. These technologies are connected to KNX via gateways. Various display and operating elements to operate the room functions are available to the user with all technologies – from simple pushbuttons through multi-functional room control units up to web-based systems.



Control elements can be mounted however you wish, without additional wires, through flexible installation of no-maintenance, no-battery sensors with EnOcean technology. The sensors for lighting, sun protection and room climate applications are integrated into the building automation systems using an EnOcean gateway. EnOcean devices can be combined with all DELTA miro and DELTA line frames.

EnOcean radio system

Infrared systems are used if radio is not feasible on legal, technical or health reasons. Functions are often to be controlled from any point in the room. This is possible with infrared. Because data transfer from the remote is restricted to the actual room, there is no interference affecting all rooms. You can even take the hand-held transmitter with you to control the corresponding functions in other rooms.

Infrared system

You can carry out numerous modern electrical installation functions without having to lay additional wires, using the GAMMA wave radio system. This is particularly advantageous when redeveloping, renovating and modernizing. The bi-directional radio system meets the KNX standard.

GAMMA wave radio system – KNX-RF

GAMMA building control – display and operation

Room				Building	
<p><b>Basic operation</b> GAMMA <i>instabus</i> pushbutton in different designs for typical room functions</p>	<p><b>Remote operation</b> Hand-held and wall-mounted transmitters for infrared (IR), KNX-RF and EnOcean, for typical room functions</p>	<p><b>Operation and control</b> Fan-coil unit operating device and room temperature controller in various designs</p>	<p><b>Display and operation</b> Multi-functional room control units in various designs and operating modes</p>	<p><b>KNX-based central displays and operation</b> Central display and operation device with additional special applications</p>	<p><b>Web-based monitoring and operating</b> Browser-based application for multi-site KNX infrastructure coverage with IT standard communication</p>
<p><b>Design</b></p> <ul style="list-style-type: none"> <li>– Pushbutton with/without status LED</li> <li>– Pushbutton with status LED, scene control and room temperature controller</li> <li>– Pushbutton with status LED, scene control and IR receiver/decoder</li> <li>– Wide design and color selection</li> </ul> <p><b>Functions</b></p> <ul style="list-style-type: none"> <li>– Lighting, sun protection, heating, ventilation and climate control</li> <li>– Switching (On/Off, toggling)</li> <li>– Bell function</li> <li>– Dimming</li> <li>– Sun protection control (shutters, blinds)</li> <li>– Scene control, effect control (recall, save)</li> <li>– Transfer of different values (percentages, temperature values, brightness values, etc.)</li> </ul>	<p><b>Design</b></p> <ul style="list-style-type: none"> <li>– Hand-held transmitter (IR, KNX-RF)</li> <li>– Wall-mounted transmitter (IR, EnOcean)</li> <li>– Flush-mounted transmitter (IR, KNX-RF)</li> <li>– Wide design and color selection</li> </ul> <p><b>Functions</b></p> <ul style="list-style-type: none"> <li>– Lighting, sun protection, heating, ventilation and climate control</li> <li>– Switching</li> <li>– Dimming</li> <li>– Sun protection control (shutters, blinds)</li> <li>– Scene control</li> <li>– Transfer of different values (percentages, temperature values, brightness values, etc.)</li> </ul>	<p><b>Design</b></p> <ul style="list-style-type: none"> <li>– Fan-coil unit controller</li> <li>– Room temperature controller</li> <li>– Wide design and color selection</li> </ul> <p><b>Functions</b></p> <p><b>Fan-coil unit controller:</b></p> <ul style="list-style-type: none"> <li>– Control of fan-coil unit functions, such as temperature and fan speeds</li> <li>– Switch between comfort and energy-saving modes</li> <li>– Fan speed display using five yellow LEDs</li> <li>– Display current room operating mode and heating/cooling mode</li> </ul> <p><b>Room temperature controller:</b></p> <ul style="list-style-type: none"> <li>– Heating, cooling and combined heating/cooling operation</li> <li>– Changing nominal value</li> <li>– Toggling between comfort and standby modes</li> <li>– Display current room operating mode</li> </ul>	<p><b>Design</b></p> <ul style="list-style-type: none"> <li>– Text display</li> <li>– Room control unit</li> <li>– Wide design and color selection</li> </ul> <p><b>Functions</b></p> <ul style="list-style-type: none"> <li>– Lighting, sun protection, heating, ventilation and climate control</li> <li>– Display of various values (temperatures, brightness, consumption), text messages, current operating mode, current fan speed, etc.</li> <li>– Alarms</li> <li>– Date and time display</li> <li>– Timer program with weekly schedules</li> <li>– Scene control</li> <li>– Room temperature controller</li> <li>– Changing nominal value and operating mode</li> <li>– Setting fan speed</li> </ul>	<p><b>Design</b></p> <ul style="list-style-type: none"> <li>– Color touch panel as multi-function display/operation unit</li> <li>– Wide design and color selection</li> </ul> <p><b>Functions</b></p> <ul style="list-style-type: none"> <li>– Display and operation of up to 110 KNX functions on 20 display and operating pages</li> <li>– Timer program with weekly schedules</li> <li>– Presence simulation</li> <li>– Scene control (64 scenes)</li> <li>– 32 logic functions</li> <li>– Trending module</li> <li>– Alarm page with display and reporting of a max. of 16 alarm reports</li> <li>– Individual password protection for each page</li> <li>– Integrated real-time clock, date and time display</li> <li>– Display of individual images on the start page</li> <li>– Configurable slide show</li> </ul>	<p><b>Design</b></p> <ul style="list-style-type: none"> <li>– N151 IP Viewer</li> </ul> <p><b>Functions</b></p> <ul style="list-style-type: none"> <li>– Lighting, sun protection, heating, ventilation and climate control</li> <li>– KNX system data visualization and operation</li> <li>– Display of up to five operating pages in a standard web browser, with up to 40 display and operating functions</li> <li>– Configurable start page</li> </ul>

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The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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#### **Answers for infrastructure.**

Our world is undergoing changes that force us to think in new ways: demographic change, urbanization, global warming and resource shortages. Maximum efficiency has top priority – and not only where energy is concerned. In addition, we need to increase comfort for the well-being of users. Also, our need for safety and security is constantly growing. For our customers, success is defined by how well they manage these challenges. Siemens has the answers.

**“We are the trusted technology partner for energy-efficient, safe and secure buildings and infrastructure.”**