

SIEMENS



The worldwide  
standard for  
home and  
building control



# KNX for building and room automation – simple and efficient

Save energy and effort with a comprehensive portfolio for electrical and HVAC applications.

Answers for infrastructure and cities.



## Optimizing the connection between all disciplines

Optimal lighting, comfortable room temperature and healthy air quality – based on KNX, you can have it all.

The comprehensive portfolio ensures seamless interaction between electrical and HVAC systems. This lowers maintenance costs and increases energy efficiency. In addition, you benefit from tested and integrated applications which allow you to efficiently integrate the primary energy production.

# Modular portfolio for electrical and HVAC systems

## Complete KNX portfolio for electrical and HVAC systems

The interdisciplinary portfolio from Siemens includes all the components you need to create a pleasant room climate based on KNX. As everything is from a single source, implementing a comfortable building and room automation is easy and straightforward. This minimizes installation and operating costs and maximizes reliability. In addition, ETS\* allows you to flexibly program the interactions between the individual systems.

## Intuitive room and system operation with maximum ease of use

KNX-enabled display and operator units make even complex functions easy to use. Our offering ranges from simple switches to multifunctional room operator units to web-based operation using established PCs, notebooks, tablets and smart phones. Additionally, users get assistance from functions such as the energy indicator. A green leaf icon indicates whether a system is running energy-efficiently or changes are needed. The display and operator units are available in different designs and match with existing switch and standardized frame programs.

## Long-term investment protection and ensured future compatibility

Backward compatibility is a major factor in the development of KNX products and systems. It allows innovations to be integrated seamlessly into existing installations.

As an open and vendor-independent communication standard, KNX offers an additional measure of security. It is extended continuously to ensure that existing KNX systems will be supported in the future so they can be modified or expanded.

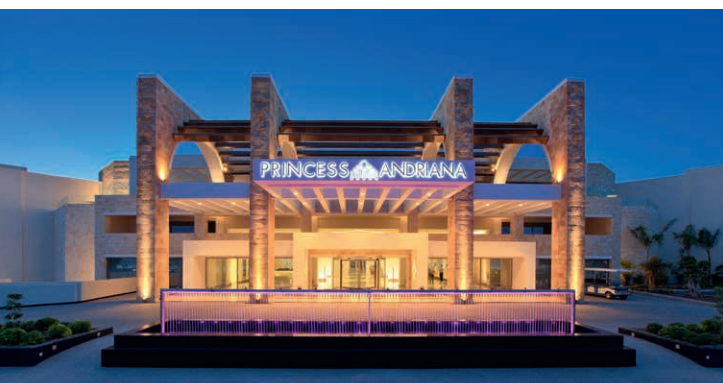
## Reliable support from an experienced KNX provider

With Siemens, you benefit from the expertise and experience of one of the companies that founded the KNX Association. For example, certified KNX ETS trainings give you access to our expert knowledge gained from over 20 years of working on the development of the KNX standard. In addition, the wide variety of functions and applications can be tested and practiced using special training cases. During commissioning, you will receive detailed technical documentation on the tested applications to ensure that you are ideally prepared for your projects.

### Highlights

- Comprehensive modular KNX portfolio for electrical and HVAC applications
- Convenient display and operator units for all room systems
- Investment protection thanks to backward-compatible products based on a vendor-independent communication standard
- Reliable partner with over 20 years of KNX expertise

\* Vendor-independent Engineering Tool Software



### Princess Andriana Resort and Spa, Rhodes, Greece

Maximum guest comfort and simple, cost-efficient maintenance: In this luxurious 5-star resort, the front desk can preset the room temperature to a comfortable level and guests can adjust it in their room within predefined limits. Presence detectors are used to control the lighting in public areas as needed. In addition, predefined scenarios make it possible to control multiple disciplines in one operation. Visualization software is used to monitor the individual functions and adjust them from a central location when necessary.

# Energy-efficient building and room automation using KNX

The products and systems from Siemens make it easy to meet your customers' needs for comfort and economical operation. The desired light level, temperature and fresh air are available precisely when needed. At the same time, the building's energy consumption, operating costs and CO<sub>2</sub> emissions are reduced.



## Time-, presence- and/or brightness-dependent lighting

Automatic lighting control ensures optimal lighting in rooms and buildings, limiting the use of artificial lighting to what is absolutely necessary.

Time-dependent lighting control turns lights on or off or dims them at preset times. When daylight is available, only as much artificial light is added to reach the preset brightness level – and only if somebody is present in the room.



## Shading control due to the position of the sun

Shading control based on the position of the sun maximizes daylight harvesting while minimizing glare. In addition, it offers optimal protection from external thermal influences, such as summer heat or winter cold.

Sunlight tracking control synchronizes the slats of the blinds with the position of the sun and automatically adjusts them to make sure only diffuse daylight enters the room. This achieves the desired light level in the room with minimal glare and lowers the energy costs associated with lighting. Shadow outline tracking increases the amount of daylight by allowing direct sun exposure in an adjustable area of the room.





°C  Comfortable temperature control

Demand-controlled heating and cooling significantly reduces energy costs while providing a comfortable room climate. This means that rooms are heated or cooled to a comfortable temperature only when they are occupied. The building's heating and cooling distribution system only supplies the amount of energy actually needed in the rooms.

To achieve this, individual room controllers make it easy to set daily, weekly and seasonal programs based on occupancy schedules. In addition, presence detectors can control the heating and cooling requirements of a room based on whether or not people are present.

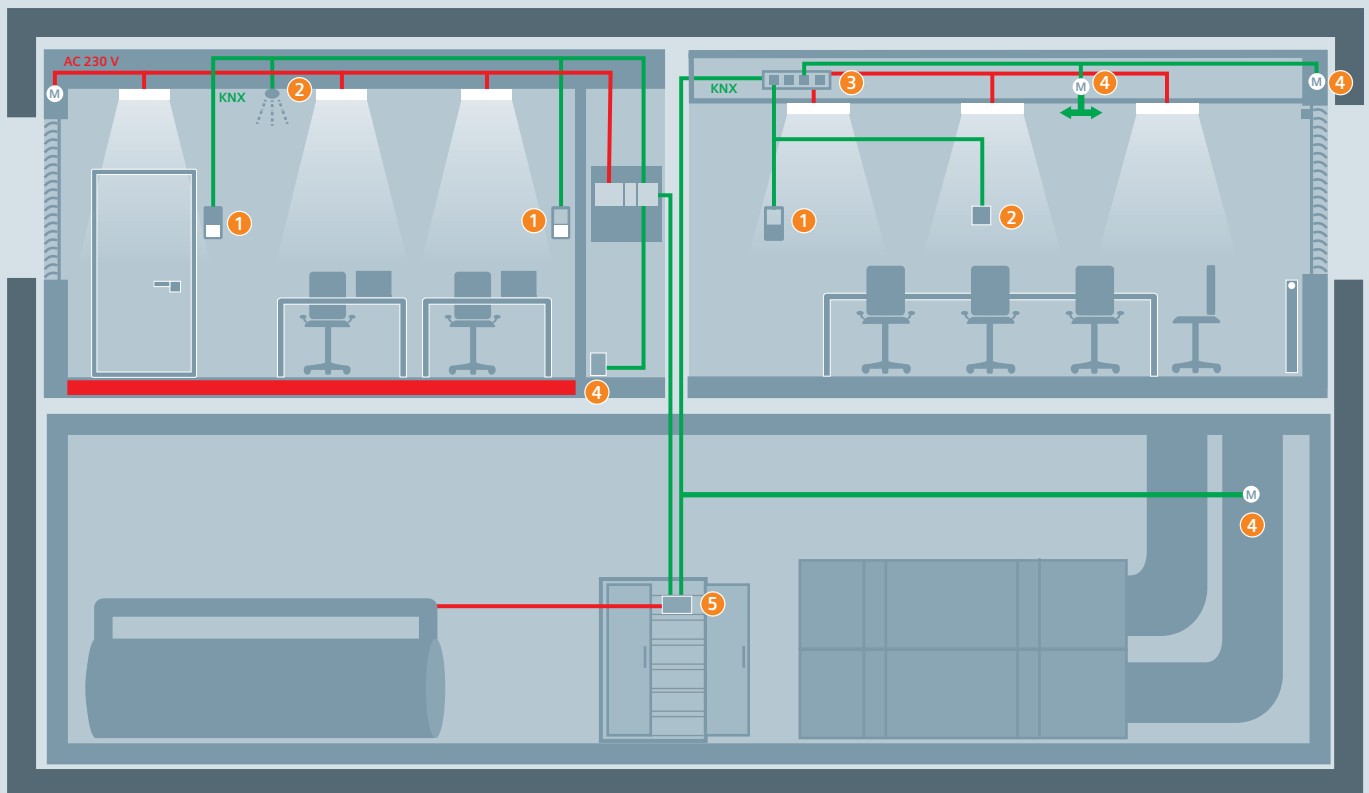
 Optimal indoor air quality

Demand-controlled ventilation limits the intake of fresh air – and hence the amount of energy – to the amount currently needed.

This avoids high heat losses caused by improper ventilation as well as the intake of too much conditioned fresh air in unused rooms. By preventing rooms from being ventilated too little or too much, demand-controlled ventilation offers a pleasant and healthy room climate with a minimum of stale air and optimal humidity levels.

# Integrated portfolio for energy-efficient comfort

Siemens offers an integrated portfolio of KNX-enabled products for smart and energy-saving building and room automation. All components are optimally matched, ensuring the perfect interconnection between lighting, shading, heating, ventilation and air conditioning.



For other market-specific offerings, please visit our Web site for integrated applications.  
[www.siemens.com/bt/integrated-applications](http://www.siemens.com/bt/integrated-applications)

## ① Flexible display and operation



A large selection of display and operator units is available to control and monitor the individual room functions. The spectrum ranges from simple switches to multifunctional room operator units with control functions to web-based systems offering access via web-enabled devices such as tablets, smart phones, PCs and notebooks.

In addition to flush mounting devices, Siemens also offers wall mounting versions which match with country-specific standards and are available in different designs.

## ② Precise sensors



The portfolio includes a variety of measuring devices for building and room automation – from temperature, humidity, air quality, wind force and brightness sensors to presence and motion detectors to weather stations. Siemens also offers sensors with integrated control functionality which reduce the need for wiring. Sensors deliver precise measurements which form the basis for energy-efficient control processes. They are less prone to errors during installation and can easily be adapted to new room configurations.

## ③ Interdisciplinary room control



The controllers and thermostats of the KNX portfolio from Siemens as well as the flexible room automation box are an ideal choice for room automation. This allows you to assemble exactly the functions and modules you need for different applications involving fan coils, variable air volumes (VAV), radiators, chilled ceilings, lighting and shading. The portfolio also includes multifunctional room operator units and thermostats with integrated temperature sensors and controllers.

## ④ Smart actuators



The Siemens portfolio also features an extensive selection of actuators ranging from switching and switching/dimming actuators to Venetian blind actuators to thermal drive and damper actuators. This offers you many different options for the interfaces between room controllers and actuators.

## ⑤ Energy-efficient primary control



HVAC controllers offer energy-efficient primary control. Integrated energy saving functions and the exchange of energy-relevant information via KNX help to make building automation more energy-efficient than ever. A large number of standardized applications using optimized and lab-tested settings are available for this purpose. An optional Web server allows for plant operation, monitoring and maintenance at any time and from anywhere.

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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 and cities.**

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.”**