



theben

Smart automation  
Intelligently networked  
KNX home and building automation



Building Automation since 1921



More comfort.  
Greater efficiency. More  
Theben KNX

## Control buildings more intelligently with Theben and KNX

Room climate, lighting, blinds, heating, and ventilation: with KNX from Theben, all functions can be controlled flexibly, efficiently, and conveniently.

Thanks to open standards, the system is future-proof and can be expanded at any time. DALI gateways connect KNX with modern lighting control, while KNX Secure reliably protects sensitive data.

Since 1992, Theben has been actively involved in KNX development as a member of the Executive Committee and Technology Committee of the KNX Association. In 2019, Theben was the first manufacturer to launch KNX wireless actuators with KNX Data Secure.

## Whether it's a new build or a modernization project – if you choose KNX, choose Theben.

- ✔ Comprehensive portfolio for wired (KNX-TP) and wireless (KNX-RF) solutions
- ✔ Design-oriented control and sensor elements
- ✔ DALI-2 certified gateways and actuators
- ✔ Over 80 products with KNX Data Secure and KNX IP Secure
- ✔ Presence and motion detectors for every installation situation
- ✔ Decades of experience in switching and dimming LEDs



# KNX presence and motion detectors

## Energy-efficient lighting control

### Elegant and award-winning



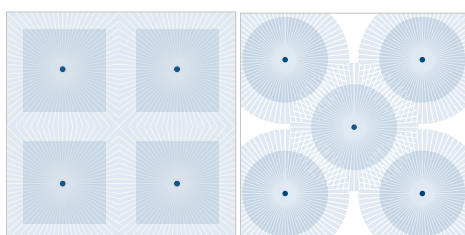
Theben presence detectors open up a whole range of possibilities for energy-efficient and intelligent lighting control. In addition to the classic application for lighting control in offices, hallways and public buildings, you can also control heating and air conditioning depending on presence. This allows you to save energy costs and significantly reduce CO<sub>2</sub> emissions.

Our presence detectors work on the same principle as motion detectors: they register heat radiation in their surroundings or in their detection range. If thermal radiation is detected in the detection area, triggered for example by a person approaching, the detector converts it into a measurable electrical signal and the light is switched on.

The difference between motion detectors and presence detectors lies in the sensitivity of the sensors. Presence detectors have significantly more sensitive sensors than motion detectors and register even the slightest movements. The sensitive sensors divide the detection area evenly into up to 1,000 zones. The zones extend across the entire detection area like a chessboard. Even minimal changes in the thermal image, such as typing on a keyboard in an open-plan office, are registered.

Light measurement makes another difference. A motion detector measures the brightness once when it switches on the light in response to movement. Presence detectors continuously measure brightness: if a set brightness value is exceeded, the presence detector switches off the light or dims it, even if it registers movement.

Unlike presence detectors with a round detection area, presence detectors with a square detection area enable optimal coverage of rooms without unnecessary overlaps or omissions.



## KNX presence detector, ideal for...

### Meeting room



theRonda S KNX FLAT  
Round detection range up to  $\varnothing$  9 m  
Mounting height 2 - 4 m

### Wet room



theRonda S KNX AP  
Round detection range up to  $\varnothing$  9 m  
Mounting height 2 - 4 m

### Entrance and storage hall



theRonda P KNX  
Round detection range up to  $\varnothing$  25 m  
Mounting height 2 - 15 m

### Changing room



theRonda S 360 KNX flush-mounted  
Round detection range up to  $\varnothing$  9 m  
Mounting height 2 - 4 mm

### Open-plan office



thePrema P KNX  
Square detection area up to 20 x 20 m  
Mounting height 2 - 10 m

### Private office



thePrema S KNX  
Square coverage area up to 8 x 8 m  
Mounting height 2 - 3.5 m

### Classrooms



thePrema P360 KNX AP Multi  
Square detection area up to 20 x 20 m  
Mounting height 2 - 10 m

### Corridor and hallway



thePassa KNX  
Rectangular detection area 360°,  
25 x 3 m, (75 m<sup>2</sup>) at 2.5 m mounting height

LUXA 103 S360-12 KNX flush-mounted  
Round detection range (360°) up to 12 m  
Mounting height 2 - 3 m

### Office



PlanoSpot KNX  
Square detection area up to 8 x 8 m  
Mounting height 2 - 3.5 m



LUXA 103 S360-28 KNX flush-mounted  
Rectangular detection area 360°, 28 x 5 m (140m<sup>2</sup>)  
Mounting height 2.5 - 3.5 m

### Smaller rooms/wet rooms



thePiccola P360 KNX DE  
Round detection area (360°) up to 8 m  
Mounting height 2.5 m

### Toilet



theMura P180 KNX flush-mounted  
Rectangular detection area 360°,  
28 x 5 m (140m<sup>2</sup>) at 3 m mounting height

### Passageways



theMura P180 2.20 KNX flush-mounted  
Rectangular detection area (170°) up to 16 x 10 m  
Mounting height 2.2 m

## KNX motion detector, ideal for...

### Staircase



theMura S180 KNX flush-mounted  
Rectangular detection area 360°,  
25 x 3 m, (75 m<sup>2</sup>) at 2.5 m mounting height

### Exterior facade



theLuxa P KNX  
Round detection range (300°) up to 32 m  
Mounting height 2-4 m

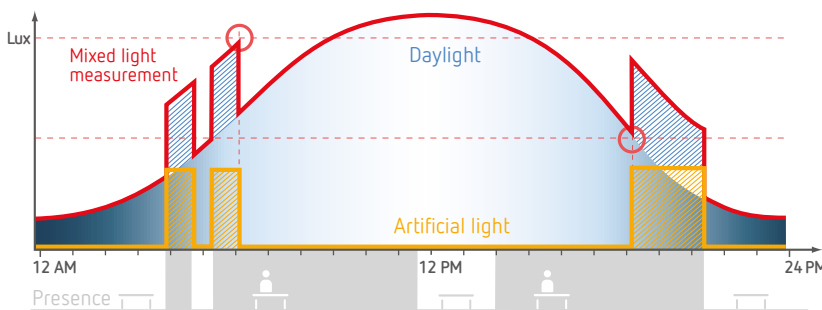
For technical data, see page 72

## Light measurement in detail

Lighting control with presence detectors is based on registered movements on the one hand, and on light measurement on the other. Presence detectors continuously measure the brightness in the room. This continuous light measurement enables the presence detector not only to switch on artificial light when there is

insufficient daylight, but also to switch off the lighting again when there is sufficient daylight. This may sound simple, but in fact the presence detector must be able to assess whether there is still sufficient daylight after switching off when artificial light is switched on.

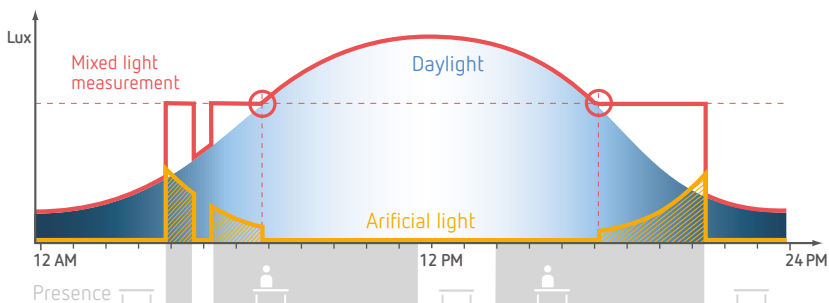
## Switching operation



**Mixed light measurement.** The presence detector measures the sum of artificial and daylight and switches the artificial light "ON" or "OFF" accordingly.

In switching mode, the presence detector measures the sum of artificial light and daylight. In order to switch off the artificial light at the right moment as daylight increases, the presence detector must know the proportion of artificial light (see figure). It learns this value independently by continuously analyzing all switching operations of the lighting in the room. It can therefore calculate the current daylight intensity at any time from the total brightness measured. The advantage of mixed light measurement is that it works with any light source—whether LEDs, halogen, or fluorescent lamps. Mixed light measurement is the basis for constant light control.

## Constant light control



**Constant light control.** With constant light control, only as much artificial light as needed is switched on and continuously adjusted.

In constant light control, the presence detector continuously measures the sum of daylight and artificial light (see figure). It determines the desired brightness value from these two light sources. On a foggy or rainy morning, there is less daylight. The presence detector then increases the amount of artificial light to achieve the desired brightness in the room. If the sun comes out during the morning, allowing more light to enter through the windows, the presence detector reduces the amount of artificial light. The brightness in the room therefore remains constant regardless of the amount of daylight entering the room. Typical applications: Rooms where a certain level of brightness is legally required.

# Versatile presence detector Lighting and HVAC control Now also available for KNX and LX



The devices are available for both flush mounting and ceiling installation, and with lens colours white or anthracite. The surface-mounted frames in black, white, or gray fit into any interior design. The integrated temperature sensor for HVAC control eliminates the need for an external sensor.



## LUXA 103 S360-12 KNX UP/DE



Item No. 1039052

Item No. 1039053

Item No. 1039152

Item No. 1039153

## LUXA 103 S360-28 KNX surface-mounted



Item No. 1039072

Item No. 1039073

Item No. 1039172

Item No. 1039173

Theben is expanding its LUXA 103 presence detector series for efficient lighting and HVAC control in indoor and outdoor areas with a ceiling-mounted KNX version. The LUXA 103 S360-12 KNX UP/DE with a round detection area (360°, Ø 12 m at a mounting height of 3 m) is ideal for individual and open-plan offices, meeting and storage rooms, basements, and restrooms. The LUXA 103 S360-28 KNX UP/DE with a rectangular detection area (360°, 28 x 5 m at a mounting height of 3 m) functions as a special corridor detector. Both devices have 2 channels each for lighting and HVAC, as well as 3 logic channels for temperature sensors.

# Added security with KNX Data Secure: thePiccola KNX Mini presence detector



The new thePiccola Mini presence detectors for KNX systems are protected against tampering thanks to KNX Data Secure. The cover frame is also available in black as an accessory (item no. 9070797).



The new generation of thePiccola Mini presence detectors is now also available as KNX variants. KNX Data Secure ensures optimal protection against data theft and manipulation. The rear housing section is so compact at 26 × 21.5 mm that the detector fits between slatted and climate ceilings and can also be installed in suspended ceilings. The "swarm light" dims the Neighbouring lights in the room to a desired value, creating a pleasant lighting atmosphere while saving energy. Two devices in one: the thePiccola KNX Mini presence detector is equipped with a temperature sensor, eliminating the need to install a separate sensor.

The compact design with a sensor head only 45 mm wide remains unchanged. In combination with its 360° detection range and max. diameter of 8 m, thePiccola is ideal for smaller rooms in residential and commercial buildings, such as workplaces, toilets, storage rooms, or hallways. The IP 55 protection class also allows for reliable use in damp rooms.



## Testing with state-of-the-art laboratory technology for accurate results and top performance

### Expanded testing capabilities in our own sensLAB

The state-of-the-art sensLAB at Theben AG makes it possible to carry out numerous tests even outside the sensNORM framework conditions. For example, tests can be performed at higher ambient temperatures. This ensures excellent detection performance even under demanding conditions.

### Highest precision and comparability through triple measurement repetition

To ensure that all data is accurate and reliable, each measurement is repeated three times. The standardized measurements are carried out in accordance with sensNORM specifications, which enables planners to better compare different products. Thanks to automation, complete measurement series can be created and evaluated overnight.



Dummies in three different sizes simulate the different mounting heights.

## Planning reliability with sensNORM

As a member of the European association and quality label sensNORM, Theben works together with other industry representatives to promote greater transparency, quality, and planning reliability for motion and presence detectors in the field of automation. Products bearing the sensNORM quality label have been tested according to standardized test specifications, allowing customers to make reliable comparisons across different manufac-

turers. The sensNORM measurement method has become the industry standard and has been included in the European standard IEC 63180.

The measured detection ranges according to sensNORM can be found in the data sheets for the respective products.

**sens**))) **NORM**  
certified

## Planning software for secure detector placement

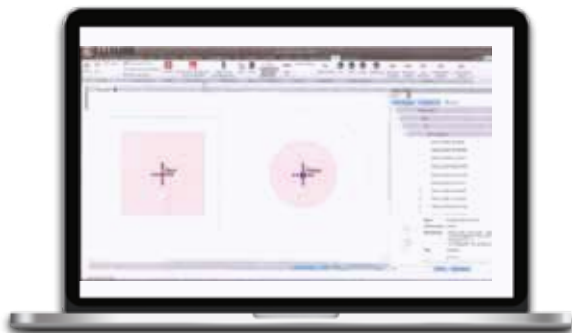
**RED CAD**

The RED CAD planning software can be used to create plans professionally and efficiently. Thanks to the integrated symbol library with the proven Theben motion and presence detectors, the detection areas can be quickly and reliably incorporated into the plans. **Find out more at [www.redcad.de](http://www.redcad.de)**

**RELUX®**

ReluxDesktop is a free application for simulating artificial and daylight. It enables the calculation of absolute values, national and international standards, and is compatible with CAD and BIM systems. The software supports the import and export of various formats. The planning of sensors is also possible. Theben is a Relux member in the sensors product group.

**Find out more at [www.relux.com](http://www.relux.com)**



# Simple and efficient Advantages of using KNX presence detectors

Theben KNX presence detectors and KNX motion detectors use their sophisticated sensor technology to detect even the slightest movements and temperature differences. This allows them to adjust lighting and climate precisely to the needs of residents and users. The various detectors are model-dependent and some are available with accessories in various colours: white, gray, silver, black, or in special colours on request.



## Square detection area

The square detection area is ideal for most rooms in which detectors are used. This allows the individual detectors to be arranged perfectly. Seamless and without unneces-

sary overlaps. Without blind spots. This simplifies planning, reduces installation costs, saves energy, and lowers costs—because fewer detectors are usually required due to the square detection area.



## High mounting height

Detectors in entrance halls or warehouses must reliably detect every movement from great heights. The innovative optics ensure that the detector does not miss anything up to an installation height of 15 m.



## Convenient remote control

A remote control allows certain settings, including activation of the programming mode, to be conveniently adjusted and changed from the floor. This is faster, reduces installation time, and reduces costs. And it's also safer.





### Day/night switching

The requirements for lighting at night differ significantly from those during the day. Often, subtle lighting and a shorter follow-up time are sufficient for finding your way around at night. In night mode, the brightness setpoint, the delay time, and the switch-on dimming value can be individually adjusted to suit requirements.



### Adjustable sensitivity

How sensitively presence detectors react to movements in the room is entirely up to you. The PIR sensors can be conveniently adjusted using the remote control – tailored to the individual needs of the user.



### Room monitoring

Nothing escapes a presence detector. This is particularly advantageous when the presence detector is integrated into the building management system of large office or administrative buildings. This means that facility management always knows which rooms are still being used for work.



### Constant light control

The KNX presence detectors feature constant light control, which continuously balances artificial and natural light. It determines the desired brightness value from both. No matter how changeable the weather may be, the lighting conditions in the room remain pleasantly constant.



### Adjustment of brightness measurement

The measured brightness value is influenced by the installation location, the incidence of light, the position of the sun, weather conditions, and the reflective properties of the room and furniture. Automatic calibration is performed using the remote control, which has a built-in lux meter. It is also possible to manually enter a lux value or change the room correction factor. These options ensure that the set target value in lux is maintained precisely at every workstation.



### Self-learning delay time

Depending on how people behave in the room, the delay time changes automatically. If people move little or rarely, the follow-up time is extended to up to 20 minutes. This increases comfort and allows people to work in the way that is most efficient for them: actively and energetically or quietly and with concentration.



### Enlightening brief presence

The light only stays on for two minutes when someone is briefly present, because presence detectors "recognize" whether and how long someone is in the room. If you only enter the room briefly, you will not automatically trigger the set comfortable follow-up time, but you will still have light.



### Innovative light measurements

The integrated calibrated light measurement reliably and continuously measures the proportion of artificial and daylight. The presence detector measures brightness using up to three directional light measurements, enabling it to respond optimally to different conditions in the room. This ensures optimal lighting even in difficult lighting conditions.



### Smart teach-in function

Lighting conditions change quickly – so it's good when you can easily save them when they are just right. The clever teach-in function allows the current lux value to be stored permanently. Without specialist knowledge. From the end user. It couldn't be easier.



### Custom lighting scenes

Bright as day or softly dimmed—the choice is yours: between two lighting scenes that you can define as you wish. For example, for conference rooms that need to be darkened during presentations. Precisely for the lighting conditions that are usually required. Setting, saving, and switching are quick and easy using the remote control.



### Intelligent parallel connection

Detectors enable more than just enlarging the detection area via leader - follower circuits. Leader-leader parallel connections allow the lighting conditions in the detection range of individual devices to be adjusted independently of each other and thus individually. This is advantageous in open-plan offices, for example, where different lighting conditions between the window fronts and the interior of the room need to be balanced. between window fronts and the interior of the room.






### Suitable for wet rooms

Presence and motion detectors with protection class IP 54 can also be used in damp rooms such as showers, changing rooms, or restrooms.

# All functions at a glance

## KNX presence and motion detectors

Functions	theMura P180 2.20 KNX UP	theMura P180 KNX UP	thePrema S360 KNX UP	thePrema P360 KNX UP	thePrema P360 KNX AP Multi	theRonda P360 KNX UP	thePiccola P360 KNX DE
 Square/rectangular detection area	●	●	●	●	●		
 High mounting height			●			●	
 Innovative light measurement				●	●		●
 Adjustment of brightness measurement	●	●	●	●	●	●	●
 Self-learning delay time	●	●	●	●	●		●
 Energy-saving short presence 2min	●	●	●	●	●	●	●
 Clever teach-in function	●	●	●	●	●	●	●
 Day/night switching	●	●		●	●		●
 Adjustable sensitivity	●	●	●	●	●	●	●
 Room monitoring	●	●	●	●	●		●
 Constant light control	●	●	●	●	●	●	●
 Convenient remote control	●	●	●	●	●	●	
 Individual lighting scenes 1 2	●	●	●	●	●	●	●
 Intelligent parallel circuit	●	●	●	●	●	●	●
 IP Suitable for damp rooms (presence detectors) or outdoors (motion detectors)						①	●
 Additional sensors, e.g., temperature, acoustics, CO <sub>2</sub> , etc....	●	●			●		●
 Logic blocks	●	●					●

① IP 54 when installed

LUXA 103 S360-12 KNX UP	LUXA 103 S360-28 KNX UP	thePassa P360 KNX UP	theRonda S360 KNX AP	theRonda S360 KNX Flat DE	theRonda S360 KNX UP	PlanoSpot 360 KNX DE	theMura S180 KNX UP WH	theLuxa P300 KNX
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●	●						●	●

For technical data, see page 72

# Comprehensive coverage theLuxa P300 KNX



## KNX motion detector For outdoor use A clear line

Comfort and safety – these are the aspects that a KNX motion detector must cover. And no one fulfills these tasks better than theLuxa P300 KNX. Integrated into the KNX building system technology, it registers exactly when it should show someone the way.

Particularly in larger areas, it is important to record and automatically respond to expected movement flows. For example, employees who arrive at the company premises early in the morning when work begins and often leave late in the evening. Or by employees and visitors to hotels, hospitals, and administrative buildings. In all these cases, it is a matter of urgently needed control, but also of forward-looking lighting for entrance halls, access routes, and connecting corridors.

The Luxa P300 KNX (protection class IP 55) is available in white or black and can be mounted on either the wall or ceiling thanks to its swivel sensor head. With a 300° detection range of up to 16 m and anti-creep protection, the Luxa P300 KNX misses nothing. The motion detector can be easily integrated into building automation via ETS and is easy to parameterize. The brightness thresholds, switch-on duration, and sensitivity can be easily configured via KNX visualization.



#### More flexible: ceiling and wall mounting

Thanks to its swivel sensor head, the Luxa P300 KNX is also suitable for ceiling mounting. The motion detector and its included accessories (corner brackets, spacer frames) are available in white and black.

## Versatile functions with numerous advantages



### Comprehensive movement channels

The four motion detector channels can be linked for various lighting applications such as switching or dimming depending on the time, e.g., as orientation lighting. Functions such as short-term presence, leader-follower, fully automatic/semi-automatic, and two switchable follow-up times can be configured via the ETS.



### Precise timer function

Functions such as "Lock," "PermanentON," "Brightness threshold," and "Switch delay time" can be accessed on a time-dependent basis using the integrated timer function with a simple weekly program.



### Flexible universal channels

The four universal channels react to temperature and/or brightness independently of movement and can therefore also be used as twilight switches, for example.



### Integrated temperature measurement

The Luxa P300 KNX has an integrated temperature sensor that can be used to implement temperature-dependent links.



### Sensitive brightness sensor

Available in white or black, the motion detector has an integrated, sensitive brightness sensor that can be used as a twilight switch.



### Independent logic channels

The AND, OR, and XOR links of the four independent logic channels react to current bus events. Switch commands or percentage values, for example, can be sent as the output object.



### Convenient remote control

The Luxa P300 KNX can be controlled remotely. Two scenes and many settings can be conveniently made from the ground. This is faster, reduces installation time, and reduces costs. And it's also safer.



### Versatile scene function

The Luxa P300 KNX is an asset to any setting. The motion channel can be integrated into scenes in a variety of ways: "Lock," "PermanentON," "Brightness threshold," and "Switch follow-up time."



### Clever teach-in function

Lighting conditions change quickly – so it's good when you can easily save them when they are just right. The clever teach-in function allows the current lux value to be stored permanently.

# Presence and motion detector theMura KNX Versatility can be this attractive and clever. Also suitable for mounting heights of 2.2 m!

The theMura KNX presence and motion detectors are stylish wall-mounted detectors and are perfect for energy-efficient lighting control, e.g., in hallways, stairwells, basements, and restrooms. It is installed at switch height and can be integrated into the most common switch ranges using accessories. The integrated button allows manual switching of the lighting, meaning that users do not have to forego manual override despite the detector.

Theben theMura KNX presence and motion detectors can be used universally with switch ranges from all leading manufacturers. The scope of delivery depends on the specific switch range.

More information at [www.theben.de/themura-en](http://www.theben.de/themura-en)

theMura flush-mounted presence detectors for wall mounting can be discreetly placed on any wall thanks to their particularly flat, attractive design and blend harmoniously into any room design. theMura P 180 KNX offers a freely configurable push button, an integrated temperature and acoustic sensor, and a push button interface.



#### Integrated button for manual override

With theMura, lighting can be controlled automatically and much more. Rather, you can also adjust them according to your personal preferences. The integrated button allows the lighting to be switched on or off manually. If the button is not needed, it can be easily deactivated.



#### Practical comfort features

The orientation light on the theMura presence detector ensures greater safety in corridors and stairwells. After the main light switches off automatically, it remains activated for an adjustable follow-up time or permanently (depending on brightness). The staircase lighting function prevents you from being left in the dark because someone has turned off the light. The teach-in function allows the current light value to be stored permanently. And if it makes sense to let the noise level determine when the lighting is switched off, e.g. in toilets, the acoustic function and the integrated microphone (depending on the device) can be used to specify the delay time. This enables reliable presence detection even in rooms with partition walls.

# Universal genius Clever and attractive compensation framework



- Attractive, flat design
- Detection range of 14 x 17 m
- Integrated push button
- Flexibility through day/night switching
- Logic channels
- Thanks to accessory sets, theMura KNX fits perfectly into the existing switch range.

### Motion detector

theMura S180 KNX UP WH (item no. 2060650)

- 1 x light, 1 x HVAC (presence)

### Presence detector

theMura P180 KNX UP WH (item no. 2060655)

- 2 x lighting, 2 x HVAC (presence)
- Integrated sensor technology (temperature, acoustics)
- Integrated orientation light
- Pushbutton interface

Theben theMura KNX presence and motion detectors can be used universally with switch ranges from all leading manufacturers. The scope of delivery depends on the specific switch range.

More information at [www.theben.de/themura-en](http://www.theben.de/themura-en)



**Theben frame**  
(item no. 9070798)  
included in delivery

Accessory set consisting of push button cover, compensation frame, and, if necessary, plastic mounting plate, e.g., JUNG compensation frame + push button cover (item no.9070789)

Frame from the relevant switch manufacturer





# For all cases Use cases and solutions from Theben

Light control with  
dimming function  
and orientation light 56

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Brightness control in  
functional buildings 58

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Blind control  
with sun position  
tracking 60

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Room climate control  
with CO<sub>2</sub> sensors, Tempe-  
rature control with  
fan coil actuator 62

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KNX Secure wireless  
solution Maximum  
flexibility with  
minimum effort 64

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# KNX system devices

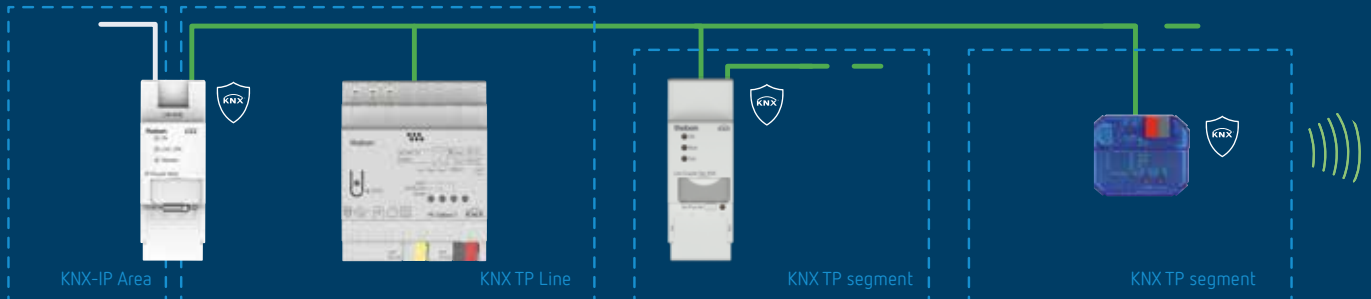
## Safe and flexible

- KNX system devices for stable and secure system configuration
- Segmentation facilitates setup and later expansion.
- Clear structure even with growing KNX installations
- Subnet isolation protects against manipulation and unauthorized access (especially outdoors)

# Lighting control with KNX & DALI-2

## System advantages at a glance

- Seamless integration of DALI-2 into KNX systems
- Multimaster structure for customized lighting concepts
- High performance even with complex systems
- Efficient solution for planning, installation, and operation



**IPsecure Router KNX**  
Secure communication at the network level & secure tunneling connection

**PS 1280 mA T KNX**  
Additional variants 160, 320, and 640 mA with identical design and connections facilitate subsequent system upgrades.

**Line coupler Sec KNX**  
Line coupler with KNX Data Secure, segment coupler & security proxy

**Media coupler KNX**  
KNX-RF wireless media coupler with KNX Data Secure, segment coupler & security proxy



**theMura DALI-2 IPD**  
DALI-2 presence sensor for wall mounting. Temperature sensor

**TA 4 S DALI-2**  
4-fold pushbutton interface with 2 additional analog inputs

**SU 1 DALI-2**  
DALI-2 switch actuator for direct load control

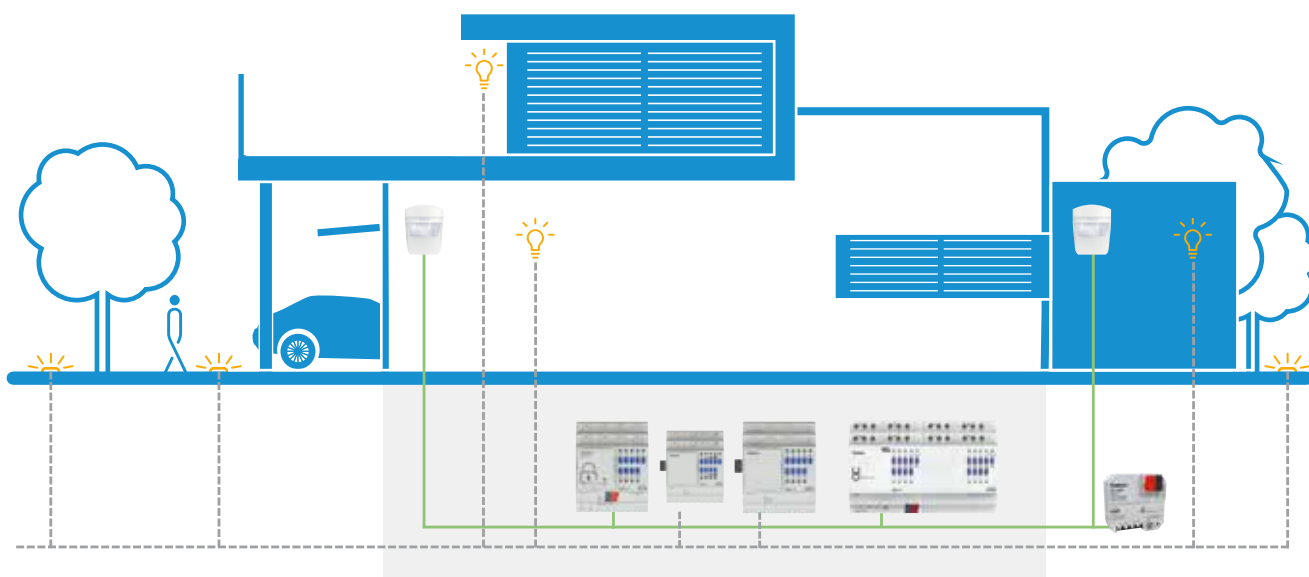
**DALI Gateway P 64 KNX**  
Multi-Master Application Controller, 64 DALI ECGs, 8 DALI-2 sensors

**SU 1 KNX**  
Switch actuator KNX-TP with 2 inputs for push buttons/switches, temperature sensor

**iONprime PB KNX**  
KNX push button sensor with temperature, humidity, brightness, proximity, and air quality sensors

# Groundbreaking lighting concepts KNX lighting control from Theben for orientation and safety

Twilight is predictable. The light changes in the morning and evening, regardless of whether you are prepared for it or not. This is exactly where intelligent KNX lighting control comes in. This is because different lighting moods are required depending on the time of day, ambient brightness, and usage situation. Reliable lighting is crucial, especially in entrance areas, parking lots, driveways, and paths. It provides orientation, increases safety, and creates comfort. With KNX solutions from Theben, lighting can be adapted precisely to these requirements. Automatic, demand-driven, and energy-efficient.



## Solution: Theben KNX lighting control for buildings and outdoor facilities

The solution combines KNX motion detectors with intelligent dimming and switching actuators. Brightness, delay times, and switching logic can be flexibly adjusted and changed at any time. This creates lighting that is tailored to your needs and optimally combines comfort and energy efficiency.

# Theben KNX lighting control for buildings and outdoor facilities

## Equipment used

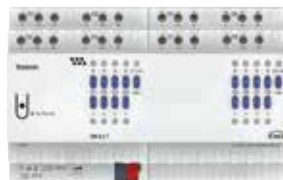
### Motion detector theLuxa P KNX

Large detection range up to 16 meters for outdoor and indoor areas. Flexible mounting on wall or ceiling. Convenient settings via remote control or KNX.



### Dimming actuator DM 8-2 T KNX

Universal dimming factor for LED, halogen, and energy-saving bulbs. Flicker-free dimming even at low loads. Ideal for modern lighting concepts.



### Switch actuator RMG 8 S KNX

Compact 8-fold switching actuator with high switching capacity. Expandable via the MIX2 system and ideal for demanding switching tasks.



### Flush-mounted switch actuator SU 1 KNX

Small design for flush-mounted boxes. High switching capacity and additional binary inputs for maximum flexibility.



## The advantages at a glance:

### Large detection range and flexible mounting

The Luxa P300 KNX detects movements up to 16 meters away. It can be used flexibly thanks to wall and ceiling mounting and optional accessories. The integrated anti-creep protection increases detection reliability.

**Sophisticated KNX applications** Brightness values and delay times can be switched depending on the situation. Changes can also be made during operation via KNX objects. Ideal for different times of day and usage scenarios.

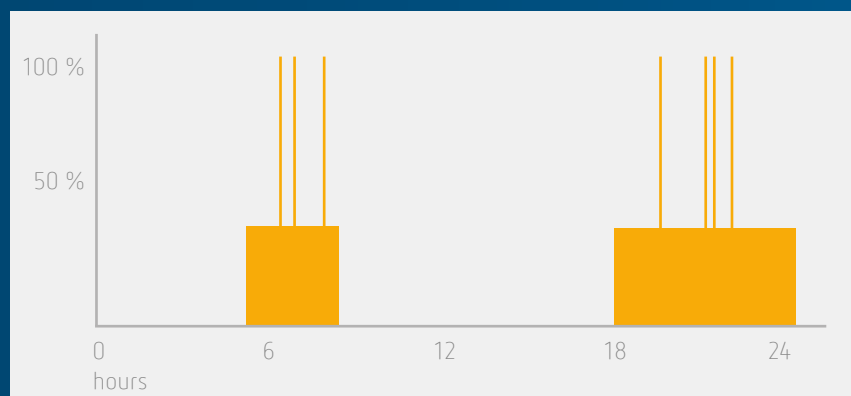
### High investment security

Universal dimmers with integrated dimming curves ensure flicker-free dimming of modern LED light sources. High switching capacities and expansion options ensure long-term flexibility.

### Basic principle of orientation lighting

How the solution works:

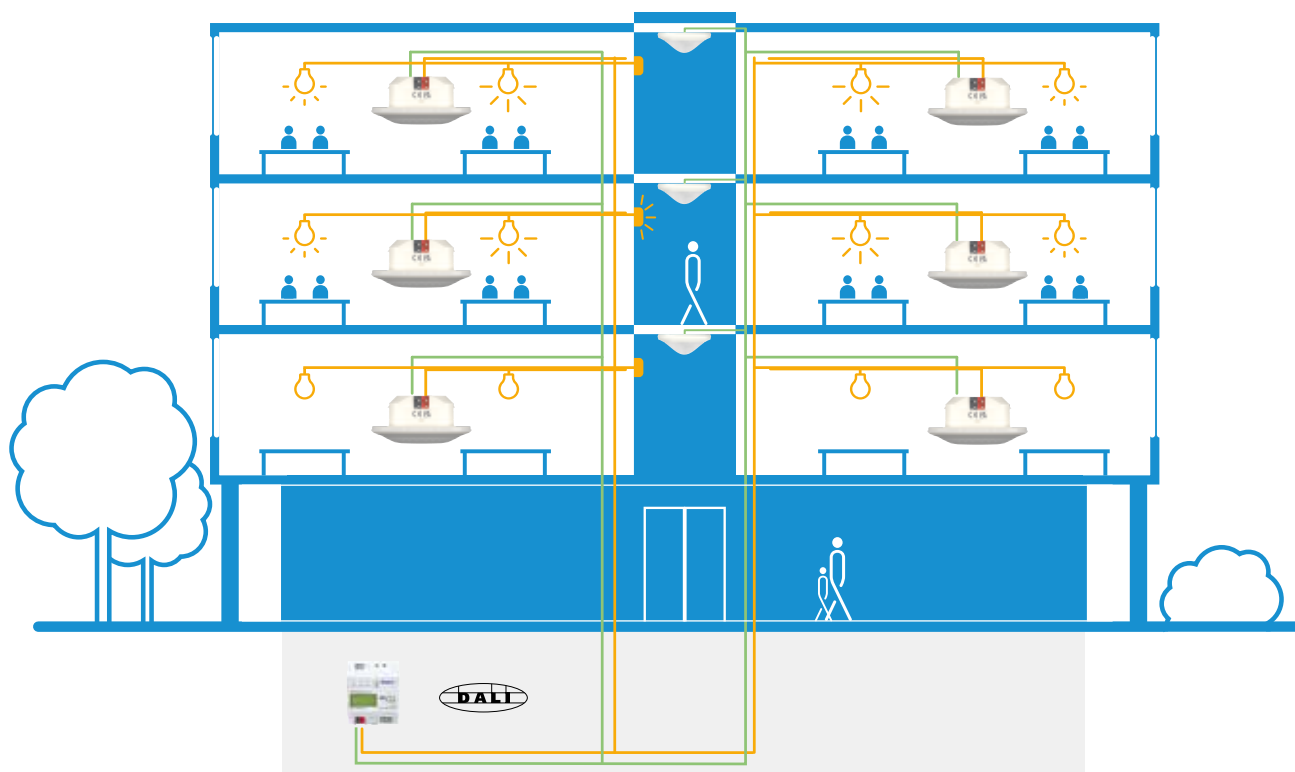
- Basic lighting with 40 percent brightness in the morning and evening hours
- When motion is detected, the light is switched to 100 percent
- Gentle dimming after a defined delay time
- Combination of presence detector and KNX actuators



# Constant lighting conditions implemented across systems

## KNX and DALI

People perceive brightness differently. What is pleasant for one person may seem too dark or too bright for others. At the same time, demands for energy efficiency, comfort, and workplace quality are increasing. Particularly in offices and training rooms, this raises the question of how constant, standard-compliant lighting conditions can be implemented in an energy-efficient manner. The solution is a combination of KNX building automation and DALI lighting control. Constant lighting control automatically adjusts the lighting to daylight and usage. This ensures uniform lighting conditions, greater comfort, and lower energy consumption.



### Solution: Theben KNX brightness control for functional buildings

The solution combines KNX presence detectors with directional light measurement and DALI-based lighting control. This allows several groups of lights to be controlled independently of each other. Daylight near windows is taken into account, while interior areas remain constantly illuminated.

The DALI Gateway KNX not only switches and dims lights, but also monitors them. Operating states, errors, or failures can be displayed directly in the KNX visualization. This ensures high energy efficiency, easy maintenance, and maximum comfort.

# Theben KNX brightness control in functional buildings

## Equipment used

### LUXA 103 S360-12 KNX flush-mounted presence detector

With 360° detection, integrated brightness measurement, and temperature sensor, the LUXA 103 KNX handles lighting and HVAC functions simultaneously. Parameterization is conveniently carried out via app or ETS.



### Presence detector theRonda P KNX

With a detection diameter of up to 25 meters, theRonda P KNX is particularly suitable for auditoriums, sports halls, or event rooms.



### DALI Gateway S64 KNX

The DALI Gateway KNX plus controls up to 64 DALI devices in 16 groups. In addition to switching and dimming, it also supports DALI DT8 for colour and colour temperature control.



### iON 108 KNX Room Controller

The iON 108 KNX combines ease of use with modern design. Functions can be individually configured and controlled via touch, display, or app.



## The advantages at a glance:

### High capture quality

Presence detectors such as PlanoSpot KNX or LUXA 103 KNX accurately detect presence and brightness. Thanks to optimized detection geometry, they are particularly suitable for offices, classrooms, and large areas.

**Optimized energy consumption** Functions such as adaptive follow-up times and short-term presence reduce unnecessary switching operations. The lighting is only activated when it is actually needed.

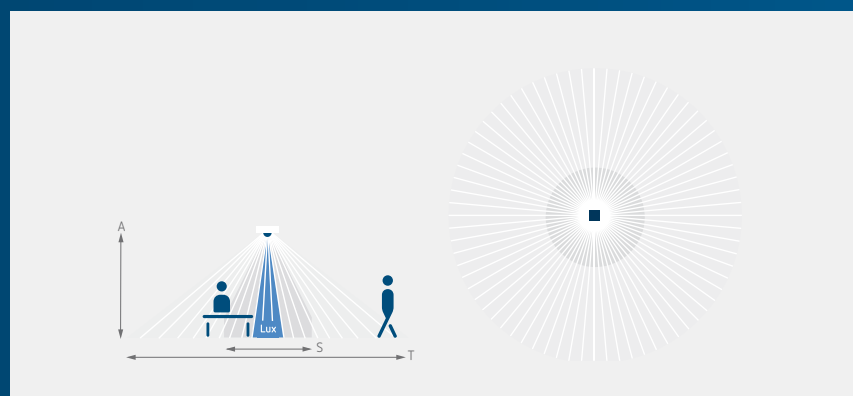
### More comfort and flexibility

Brightness and delay times can be adjusted at any time via KNX objects. In conjunction with DALI DT8, even colour temperature and light colour can be adjusted. Operation is possible locally or via app.

### Constant light control

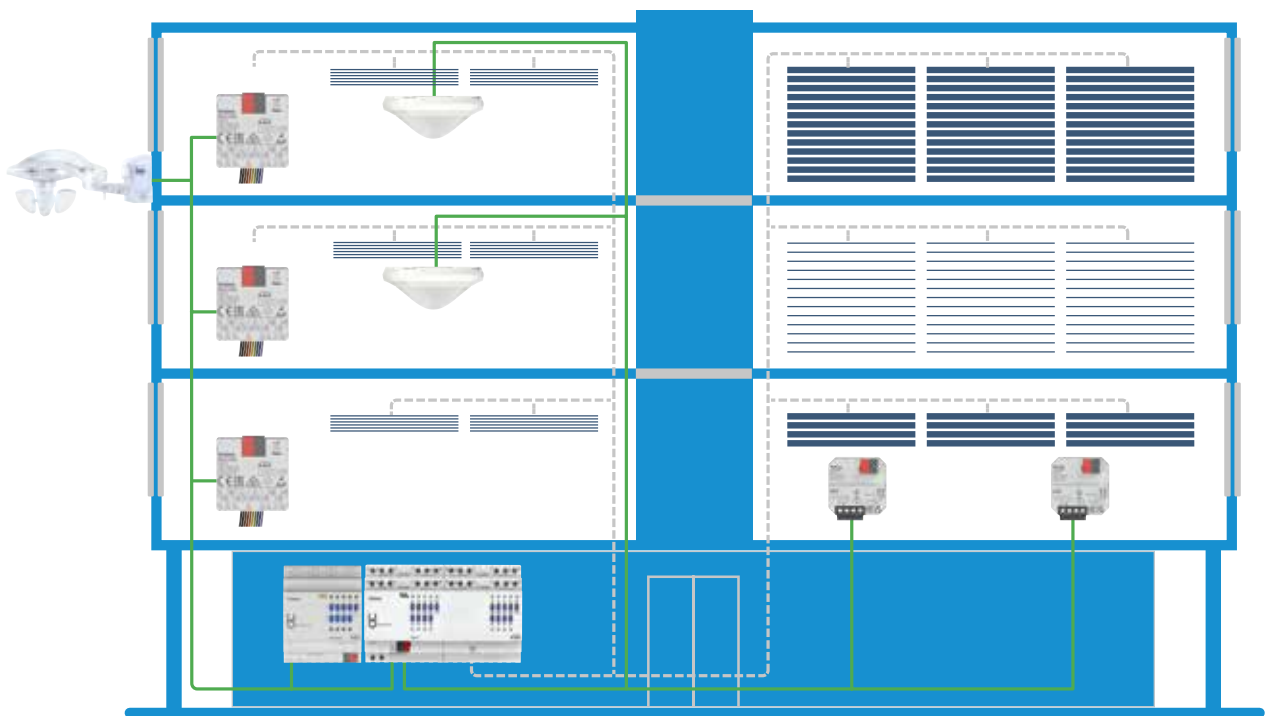
How the solution works:

- Detection of the existing brightness in the room
- Separate measurement of window and interior areas
- Automatic adjustment of light output
- Constant lighting conditions regardless of daylight



# KNX blind control Sun tracking for better glare protection

The position of the sun changes constantly and affects light, glare, and room temperature. In modern buildings, it is therefore important to balance comfort and energy efficiency. The KNX blind control system from Theben automatically adjusts blinds and external blinds to the position of the sun. This makes optimal use of daylight, reduces glare, and saves energy—reliably and fully automatically.



## Solution: Theben KNX blind control with sun tracking

The KNX solution from Theben combines an intelligent weather station with powerful blind actuators. The position of the sun is calculated directly in the weather station. This means that no additional modules are required.

Shading is automatically adjusted based on the calculated position of the sun. This prevents glare, makes optimal use of daylight, and at the same time reduces the energy required for cooling or heating. Safety features such as storm and frost protection are also fully integrated.

# Theben KNX shading control in functional buildings

## Equipment used

### Weather station Meteodata 140 S GPS KNX

The Meteodata 140 S GPS KNX measures brightness, wind, rain, and temperature. Azimuth and elevation are calculated using the integrated GPS receiver. This allows it to reliably control sun protection for up to eight facades.



### Blind actuator JM 4 T KNX

The 4-fold blind actuator is suitable for controlling blinds, shutters, and sun protection systems. Functions such as parameter copying facilitate commissioning.



### Presence detector theRonda S360 KNX FLAT

With 360-degree coverage and IP54 protection, it is also suitable for rooms with daylight or increased requirements. Parameterization is conveniently carried out via ETS or remote control.



### Wireless blind actuator JU 1 KNX

The KNX flush-mounted blind actuator enables retrofitting without complex wiring. Two binary inputs allow the connection of push buttons or window contacts. Ideal for renovations and individual rooms.



## The advantages at a glance:

### Fewer components, lower costs

All weather data is evaluated directly in the Meteodata 140 S GPS KNX weather station. An additional logic module is not required. The system remains clear and economical.

**High flexibility and easy retrofitting** Thanks to KNX and wireless solutions, existing systems can be easily expanded. The MIX2 and FIX actuators enable flexible use of the channels for blinds or switching functions.

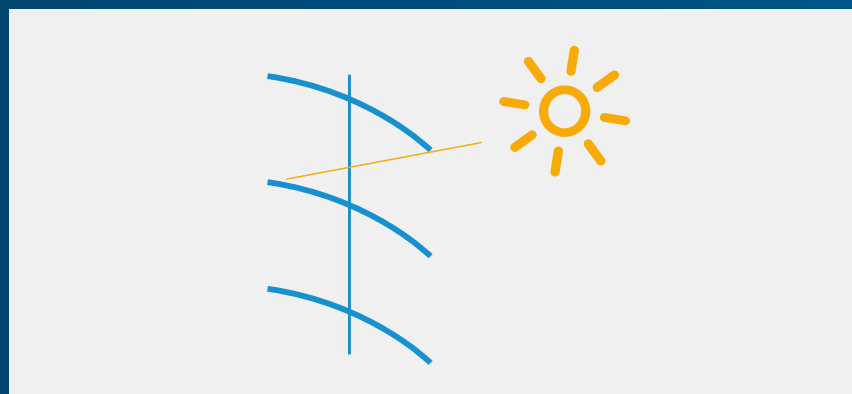
### Energy-efficient comfort

Automatic shading protects rooms from overheating. At the same time, solar radiation is used to supplement heating in winter. This ensures pleasant room temperatures and reduces energy costs.

### Slats tracking

How the solution works:

When sunlight is strong, the position of the slats is automatically adjusted to the sun's path. This prevents glare and direct sunlight without blocking out daylight.

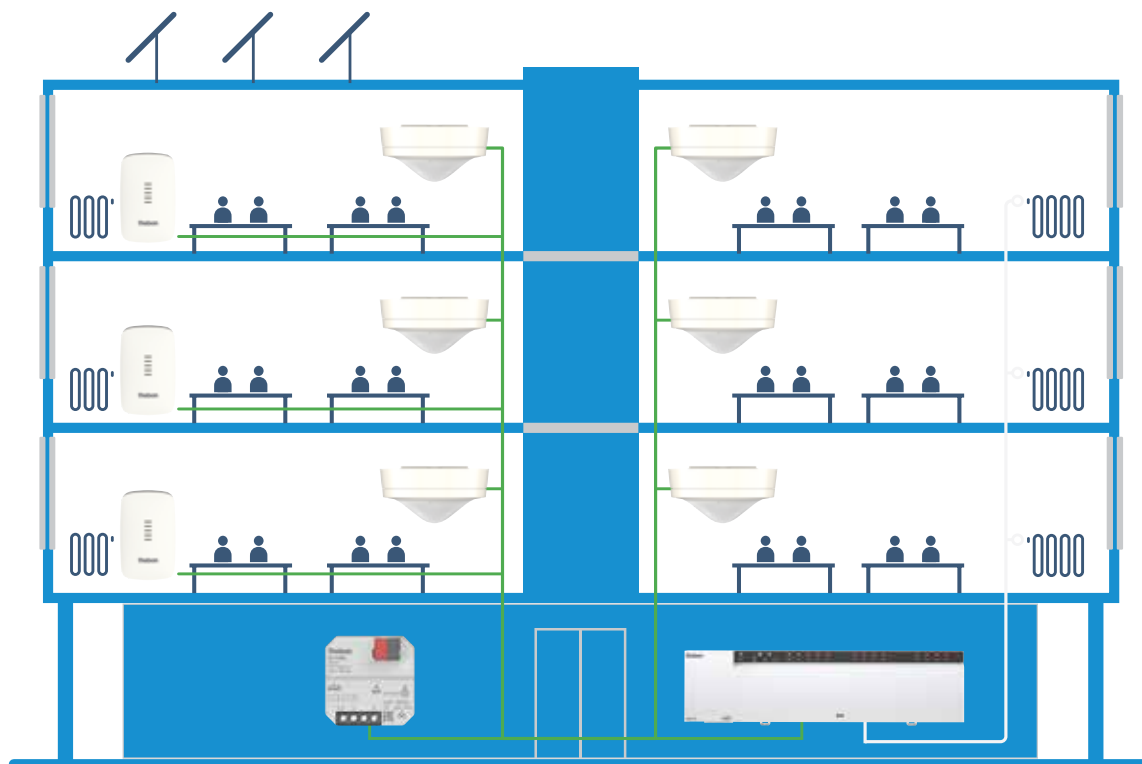


# Theben KNX room climate control

## Educational value:

## Temperature control with CO<sub>2</sub> MEASUREMENT

Where many people gather, the indoor air directly affects concentration and well-being. CO<sub>2</sub> levels rise quickly, especially in classrooms, and reduce performance. The KNX room climate control system from Theben measures temperature and air quality and controls heating and ventilation according to demand. This creates a pleasant indoor climate that saves energy and promotes concentration at work – a benefit for users, operators, and planners alike.



### Solution: Theben KNX room climate control for education and functional buildings

Theben's KNX room climate control combines temperature control and air quality assessment in a single system. Presence detectors with CO<sub>2</sub> sensors detect the room situation and transmit the values to the heating actuators.

This not only maintains the desired room temperature, but also indicates when fresh air is required. The control is automatic, but can be adjusted manually at any time. This ensures a high level of comfort, low energy consumption, and a consistently pleasant indoor climate.

# Theben KNX room climate control pay attention to temperature, air quality and energy consumption

## Room temperature controller TR 648 top3 RC KNX

The TR 648 KNX enables precise temperature control with a weekly timer function. The clear display makes it easy to set comfort, standby, and reduced operating times. Ideal for classrooms, offices, and training rooms.



## Heating actuator HMT 6 S KNX

The HMT 6 S KNX controls up to six heating circuits and is suitable for both central and decentralized applications. The control is efficient and reliable, adjusted to room temperature and operating conditions.



## Presence detector thePrema P360 KNX Multi

The Prema P360 KNX Multi combines presence detection with brightness and CO<sub>2</sub> detection. This allows lighting, temperature, and ventilation to be optimally coordinated. Ideal for classrooms and learning areas.



## CHEOPS S KNX electric motor actuator

The powerful actuator offers the perfect combination of high maximum actuating force of up to 220 N, great flexibility thanks to two binary inputs, and maximum security thanks to KNX Data Secure.



## The advantages at a glance:

### Fewer devices, less effort

The combination of sensor technology and control eliminates the need for separate room thermostats. Temperature control is centralized via the heating actuators, which simplifies installation and parameterization.

**Safe operation and high reliability** The actuators used have integrated protective functions and monitor themselves. Window contacts and operating states can be taken into account to prevent energy loss.

### Flexible and future-proof

The solution is suitable for individual rooms as well as entire building complexes. Changes in usage can be adjusted at any time via KNX—without replacing hardware.

350	1.000	4.000	5.000	50.000	100.000	200.000
Außenluft	Gefühl von schlechter Luft, Beginn von Konzentrations-schwächen	Schlecht gelüftetes Zimmer	Maximale Arbeitsplatz-Konzentration (MAK-Wert)	Ausatem-Konzentration des Menschen	Verlöschen einer Kerze	Letal (tödlich) für Menschen

Exemplary CO<sub>2</sub>-Values in ppm

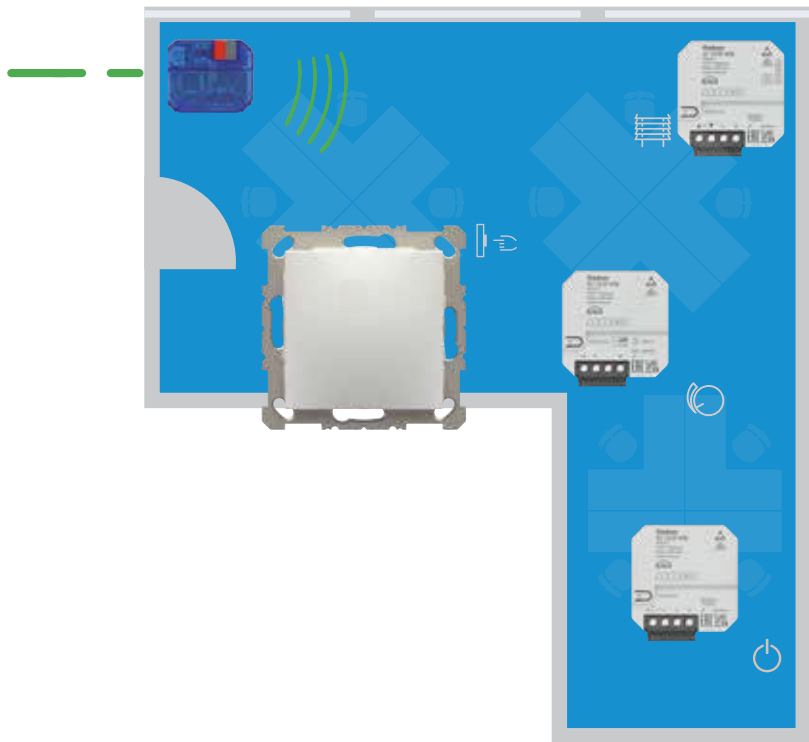
# Theben KNX Secure wireless solution

## Maximum flexibility with minimum effort



Not every building can be retrofitted without problems. Especially in existing buildings or during renovations, classic KNX installations quickly reach their limits when new cables need to be laid. This is exactly where Theben's KNX Secure wireless solution comes in.

It enables the expansion of existing KNX installations without additional cabling. Switching, control, and automation are carried out reliably via radio—securely encrypted and fully integrated into the KNX system. This makes it easy to retrofit convenience features without altering the building structure.



### Media coupler TP-RF KNX

The media coupler establishes the connection between KNX TP and KNX RF. It ensures secure transmission of telegrams and enables the integration of radio devices into the KNX system.

## Solution: Theben KNX Secure wireless solution for flexible extensions

The KNX wireless solution from Theben connects wired KNX installations with wireless components. Radio telegrams are securely integrated into the KNX system via the media coupler.

This makes it easy to retrofit switches, blinds, or control elements—ideal for renovations, extensions, or listed buildings. Thanks to KNX Data Secure, communication is encrypted and tamper-proof.

# Theben KNX radio

## Wireless communication

### for every application

#### Switch actuator DU 1 S RF KNX

The wireless switch actuator is ideal for retrofitting lighting or consumer controls. Easy to adapt to different lamps thanks to automatic load detection.



#### Blind actuator JU 1 S RF KNX

With the JU 1 S RF KNX, blinds and sun protection systems can be easily retrofitted. Radio communication enables quick installation without interfering with the building structure.



#### Switch actuator SU 1 S RF KNX

The SU 1 S RF KNX is ideal for switching any load. It impresses with its simple installation and secure radio communication.



#### Push button blind actuator module PJ 1 RF KNX

Universally applicable A wide range of 55 mm switch ranges with single or double rocker switches. Simple and quick conversion of conventional installations.



## The advantages at a glance:

### Maximum flexibility

Existing KNX installations can be expanded at any time—without any chiseling or new wiring. Ideal for retrofitting and modernization.

**Secure operation** All radio telegrams are transmitted in encrypted form via KNX Data Secure. This ensures a high level of protection against unauthorized access.

### Low installation effort

Commissioning is quick and easy. Changes or additions can be made at any time without interfering with the existing infrastructure.

All flush-mounted actuators have two binary inputs for potential-free contacts such as buttons, switches, and window contacts. A binary input can also be used in conjunction with a temperature sensor.



Theben is a member of:



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