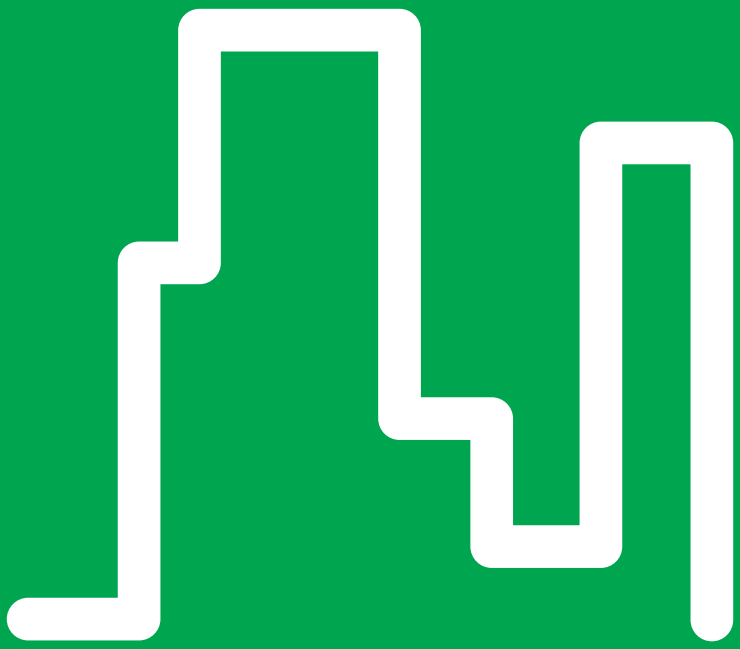
SeeTool - Solutions for KNX

Office building segment



Application 3.0.0.0.0.4

Movement dependent automatic light control, 2 room solution

Schneider Electric

Lighting control functions

The light is automatically switched ON when a person enters the room and the brightness value is below a predefined brightness threshold. It is automatically switched OFF when no movement is detected in the room and preset delay time has passed.

Application areas

The application is defined for two single room offices with basic requirements on comfort for lighting control. It is also usable in all types of infrequently visited areas and occasionally used rooms as it offers basic, simple lighting control, which switches the light automatically dependant on people's movement.

Lighting

Energy savings

Lights will not remain on all night, or even when not needed. Energy savings are achieved by turning ON and OFF the lights automatically. This reduces the time for the lights turned on and can lead to savings of 40% compared to installations without automatic function.

Flexibility

For optimised cost, the amount of units is reduced to a minimum, but allows maximum of flexibility when walls are removed and rooms are combined.

Reliability

Design, planning and installation documents are pre-defined which makes the entire building process faster and more reliable. User documents and descriptions are prepared to assist in user training. The application works as an individual, stand alone room control unit and can be installed, used alone, or combined with the entire network.

Future proof

The application is prepared and defined for integration into a Building Management System if required, through the open technology communication network.

EN 15232
A class solution

tested &
validated

Technical specifications

Functions

functions

The light is automatically switched ON when a person enters the room and the brightness value is below a predefined brightness threshold. It is automatically switched OFF when no movement is detected in the room and preset delay time has passed.

Delay is adjustable by ETS software. Default is 25 min.

The brightness threshold is also adjustable by ETS software. Our recommendation is 300 lux.

Components

The application consists of two movement detectors (wall mounted) and one DIN-rail switch actuator (mounted in the cabinet or close to the room).

MTN647393	KNX Switch actuator REG-K/2x230/16 with manual mode

Design ranges

(Frames not included. Other designs and colours available.)

EXXACT

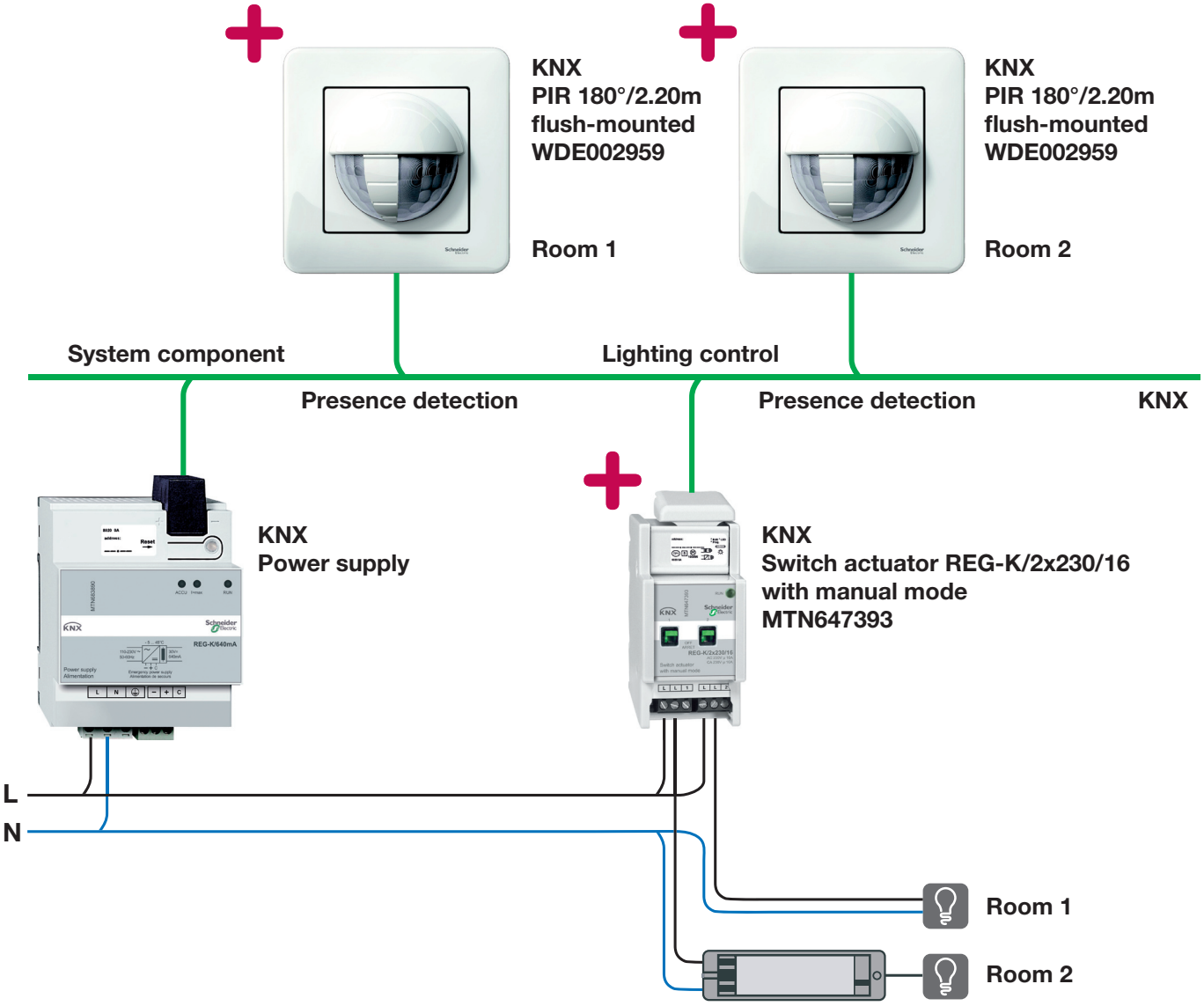
WDE002959	2x KNX PIR 180°/2.20m flush mounted

Installation

Movement detector recommended to be installed on the wall at a height of 2.20m.

Technical specifications

Wiring diagram



things work together

Technical specifications

Configuration

The ETS tool is used to set the parameters for the devices in the application and to define the functional relationship between the devices by group addresses.

The following parameters and group address relations must be set and assigned. The parameters should be set first and in the described order. The parameters which can be changed to fine tune the application are described further on.

KNX PIR 180°/2.20m (Room1)				
0	Switch object 1	Block 1	1 bit	–> 1/1/1
109	Status feedback	Safety pause	1 bit	<– 1/1/2
Block 1 general –> Brightness Brightness threshold (10-2000 Lux):			300	
Block 1 general –> Times Time base for staircase timer: Time factor for staircase timer (1-255):			1 min 25	

KNX PIR 180°/2.20m (Room2)				
0	Switch object 1	Block 1	1 bit	–> 1/1/11
109	Status feedback	Safety pause	1 bit	<– 1/1/12
Block 1 general –> Brightness Brightness threshold (10-2000 Lux):			300	
Block 1 general –> Times Time base for staircase timer: Time factor for staircase timer (1-255):			1 min 25	

	Switch actuator REG-K/2x230/16			
1/1/1 –>	0	Switch object	Channel 1	1 bit
1/1/2 <–	3	Status feedback	Channel 1	1 bit
1/1/11 –>	4	Switch object	Channel 2	1 bit
1/1/12 <–	7	Status feedback	Channel 2	1 bit
	Device selection Device selection:		2-fold switch actuator	
	Channel 1: General Status information: Relay state after bus voltage recovery:		active status resp. object opened	
	Channel 2: General Status information: Relay state after bus voltage recovery:		active status resp. object opened	

settings

Group addresses

Address	Name (proposal)	Function
1/1/1	Room 001 Light On/Off	Light on/off by the movement detector
1/1/2	Room 001 Light Status	Feedback from actuator, On/Off
1/1/11	Room 002 Light On/Off	Light on/off by the movement detector
1/1/12	Room 002 Light Status	Feedback from actuator, On/Off

Technical specifications

Fine tuning

fine tuning

Some parameters can be changed to fine tune the solution to the building and specific requirements. Parameter which may need to be adjusted are listed below, our recommendation in brackets.

KNX PIR 180°/2.20m:
The staircase timer (delay time) will be retriggered by every detected movement when the light is on. The light will be switched off if no movement has been detected within the specified time.

Parameter page	Parameter	Value
Block 1 general –> Times	Time base for staircase timer	1s-1h (1 min)
Block 1 general –> Times	Time factor for staircase timer	1-255 (25)

Delay time = Time base x Time factor

The light will only be switched ON by movement if the brightness in the room is below the specified brightness threshold. Note that the brightness is measured at the installation place of the detector.

Parameter page	Parameter	Value
Block 1 general –> Brightness	Brightness threshold	10-2000 lux (300)

Power failure behaviour

Relay state after bus voltage failure: no change (relay remains)

Relay state after bus voltage recovery: opened (light is OFF)

Technical specifications

User manual

The user manual provided for the application is an end users training material and can be installed at site when final submissions made.

Please do no forget to cut out this quick guide for the user and attach to the wall next to the entrance to the room. Also, make sure the customer is aware of the installed applications function.

Quick guide

THIS ROOM IS EQUIPPED WITH AN AUTOMATIC MOVEMENT DETECTOR.

Automatic mode operation

- The light is automatically switched ON when a person enters the room and the brightness value is below a predefined brightness threshold. It is automatically switched OFF when no movement is detected in the room and preset delay time has passed.
- Delay time is adjustable by ETS software.
  Default is 25 min.
- The brightness threshold is also adjustable by ETS software. Default is 300 lux.

06-10 Application 3.0.0.0.0.4

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service for your customer