Lighting control

Application: all buildings

Automate lighting control using KNX presence and daylight detectors

"I want to save energy by automating my school's classroom lighting. The system also needs to be flexible and easy to expand and upgrade."

Solution

Control room lighting automatically according to occupation and natural light

The solution is built around presence detectors linked to switching actuators, and features a push-button control for use in manual mode. The entire system is connected via KNX open bus to facilitate extensions and upgrades.

Thanks to the presence detectors, lights are automatically switched on when a person enters the room if natural light is below a preset level. Lights are automatically switched off when no movement is detected in the room and the preset time delay has passed.

In manual mode, lights can be switched permanently on or off. Switching the system on in manual mode restarts automatic presence and natural light detection mode.

Benefits

For the user

> Use up to 20% less energy by aligning lighting use with room occupation (based on DIN V18599 or EN 15232 reference buildings)

> Reduce installation costs and time compared to conventional systems with similar functions

> Enhance occupant comfort

For professionals

+ Flexible for easy upgrades and extensions

- All functions may be set and extended at any time without costly building work
- All devices are connected to a common bus line

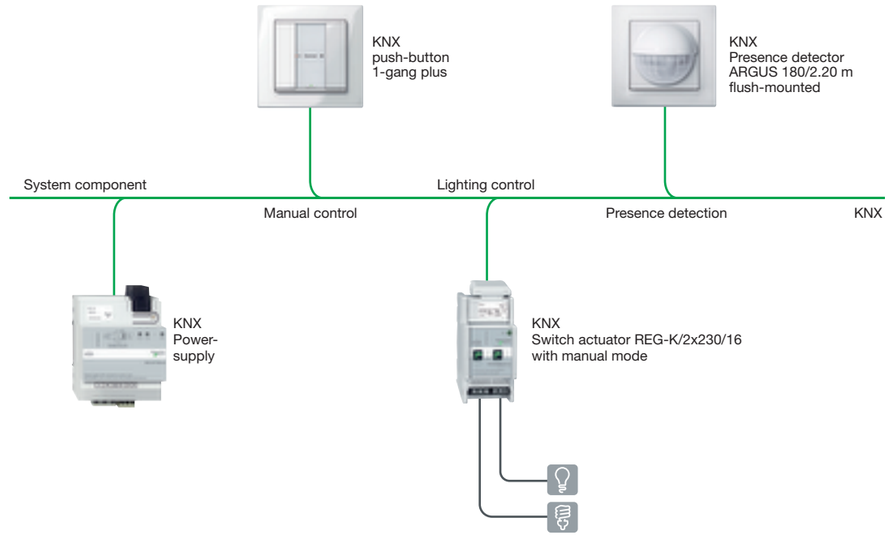
+ A source of new business opportunities

- KNX solutions must be installed by skilled electricians or integrators and offer many user-friendly and cost-efficient functions

+ Lower, more predictable maintenance costs

- Automated switching cuts down on lighting use, extending the lifetime of light fixtures
- Replacement scheduling is facilitated because the number of hours of use is known in advance when optional switch actuators with current detection are used

☐ Measure ☑ Reduce energy consumption ☐ Reduce energy costs



Solution

KNX ARGUS 180/2.20 m flush-mounted presence detector

- Angle of detection: 180°
- Range: 8 m right/left, 12 m to the front
- Mounting height: 2.2 m or 1.1 m with half the range
- Number of levels: 6
- Number of zones: 46
- Number of movement sensors: 2, sector-oriented, adjustable
- Sensitivity: infinitely adjustable (ETS or potentiometer)
- Light sensor: infinitely adjustable from approx. 10 Lux to 2000 Lux (ETS or potentiometer)
- Time: adjustable in steps from 1 s to 8 min (potentiometer) or adjustable from 1 s to 255 hours (ETS)

KNX switch actuator

- Capable of switching two loads independently
- Integrated bus coupler and screw terminals
- For installation on EN 50022 DIN rails
- 230 V switch output can be operated with a manual switch
- Time delay for each switch output
- Nominal voltage: AC 230 V, 50-60 Hz
- For each switching contact:
  - Nominal current: 16 A, cosφ = 0.6
  - Incandescent lamps: 230 V AC, max. 3600 W
  - Halogen lamps: 230 V AC, max. 2500 W

- Fluorescent lamps: 230 V AC, max. 2500 VA
- Capacitive load: 230 V AC, 16 A, max. 200 µF
- Device width: 2.5 modules = 45 mm
- Contents: bus connecting terminal and cable cover