

## Lighting control

**Application:** any building without a Building Management System and with good natural light

# Achieve simple lighting control using natural light and building occupation

“ I want to reduce the amount of energy used by my building’s lighting by taking advantage of natural light in corridors and areas with large windows. Most importantly, I want to keep lights from being left on all weekend! ”

## Solution

A controller is programmed with each area’s occupation patterns. A light sensor allows the lights to be switched on, via the controller, when natural light levels are too low. The system is flexible enough to allow occupants to override the restriction, switching lights on for short periods of time as needed.

Each area is outfitted with the usual light fixtures and push-button on/off switches, and is powered by an electrical circuit controlled by an impulse relay that receives commands from a controller. The controller also includes digital inputs from one or more twilight switches that constantly measure natural light levels.

Depending on the configuration, the controller can either automatically switch lights on in a given area, depending on time of day, or periodically send lights-off commands when natural light is high, or when the programmed occupation time is over. Flexible programming ensures an optimal balance between energy savings and user comfort.

# Benefits

## For the user

> **Save 10% off** lighting costs, one of the top three sources of electrical consumption

> **Easy-to-control,** independent system does not affect other building systems

## For professionals

+ **Design**  
• Fully-configurable for a variety of building occupation situations

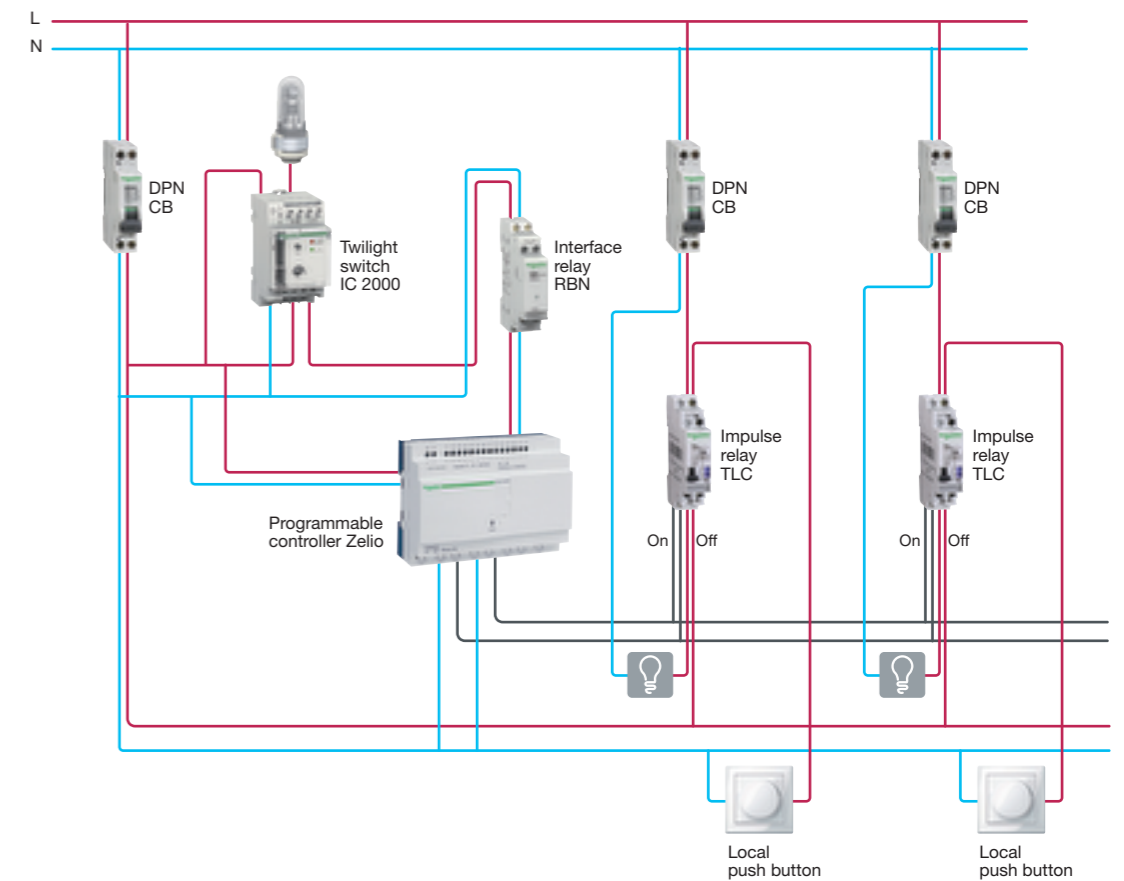
+ **Installation**  
• Offer the added value of automation  
• Impulse relays work with standard wiring

+ **Maintenance**  
• Easy-to-maintain traditional architecture

## How it works

- Corridor lighting is switched on when employees begin to arrive at 7.30 am.
- There is enough natural light for people to use the area comfortably, so the lights remain switched off until 5.41 pm, when the natural light is no longer sufficient.
- In the meantime, Mr Smith switches on the lights in his office when he arrives. A short time later, at 8.50 am, the lights are switched off automatically due to good natural light. Mr Smith switches them on again to perform a task at his desk, and the lights remain on for 15 minutes.
- From 4.55 pm on, when natural light is lower, Mr Smith can again leave the lights on as long as he wants.
- At 7 pm, the automatic shut-off kicks in again.

Measure  Reduce energy consumption  Reduce energy costs



**Zelio Logic smart relay** is designed for use in small automated systems

- The number of inputs/ outputs can be:
  - 12 or 20 I/O, supplied with a 24 V or c 12 V,
  - 10, 12 or 20 I/O, supplied with a 100 to 240 V or c 24 V
- with clock Programming language
- To improve performance and flexibility, Zelio Logic modular smart relays can be fitted with communication modules



and I/O extension modules to obtain a maximum of 40 I/O

- Programming can be performed:
  - independently, using the buttons on the Zelio Logic smart relay (ladder language),
  - on a PC using “Zelio Soft 2” software

**RBN Interface: between low voltage and extra low voltage**

- Enhanced isolation between circuits (4KV)
- Mini 5mA 5V CA/CC to maxi 2A 250V CA
- Standard IEC 255-100, IEC 529

**IC 2000 Twilight switch**

- Adjustable from 2 lux to 2000 lux
- Supplied with wall-mounted IP54 light sensor cell

**TLC impulse relay with centralized control**