

# How to install lighting controls

## What's the importance of controlling lighting?

If you take action on some simple measures described in this guide, you could reduce your lighting costs by up to 30%. You could also provide a more comfortable working environment for your staff.

## Did you know?

Leaving the office lights on overnight wastes enough energy to make 1,000 cups of tea!

# Three ways to improve

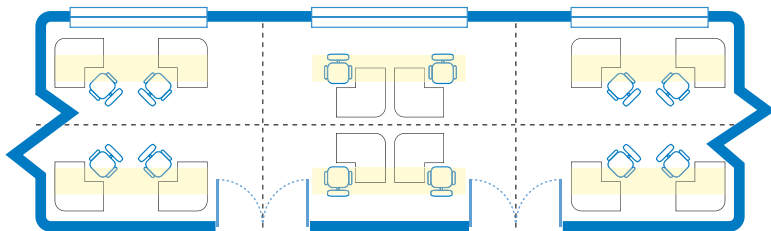
## 1. Making the switch

At work, people need to be sure which set of lights apply to their area. Simple switching arrangements can make everything clear.

- In general, locate switches less than 6m away from the lights they control and preferably as close to the work area as possible. In smaller offices, switches should be easily accessible on entering the room.
- For open-plan offices, switches should control groups of lights (this is called 'zoning' – see below). Lights can then be turned off in unoccupied areas or where there is sufficient daylight.
- In shops or warehouses, lights should be labelled and independently controlled for each work area or aisle.

### Points to raise with the installer

*In larger open-plan areas, switches should be close to the people who need them. Infrared light controls are available that require less wiring than conventional switches. These provide a dimming feature which can often pay for itself in energy savings.*



Control lights in zones which are parallel with the windows and from left to right, so that areas with good daylight are not lit unnecessarily.

# Save your lighting

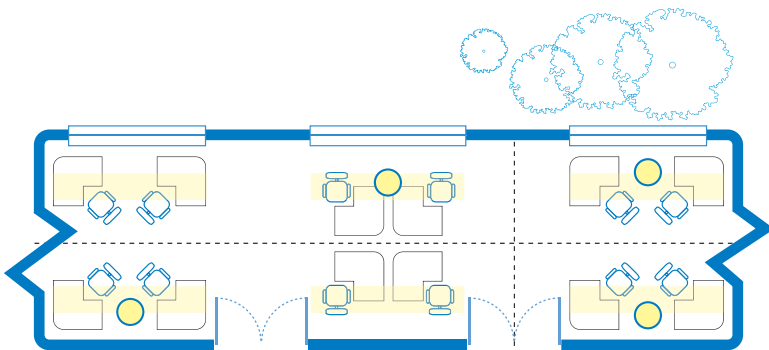
## 2. Daylight sensors

Maximising the use of daylight could save around 15% on your lighting costs. Daylight sensors detect natural light levels and switch off lights or control dimming accordingly.

- Make sure the area has enough daylight to make the investment worthwhile. A light meter can help you make this judgement; you can hire one for as little as £40.
- When you're reading the meter, light levels are measured in 'lux'. As a rough guide, general office activities require 300-500 lux (at desk level).
- Sometimes it may be most cost effective to apply sensor controls only to the lights nearest the windows, leaving the rest on manual control.

### Points to raise with the installer

*Sensors require maintenance and adjustment, especially in the beginning, to make sure the lights are controlled correctly. Ask the installer how this will be dealt with before agreeing to undertake any work.*



If there are differences in light levels inside a building due to overshadowing from buildings and trees, then additional sensors will be required.

# 1, 2, 3...

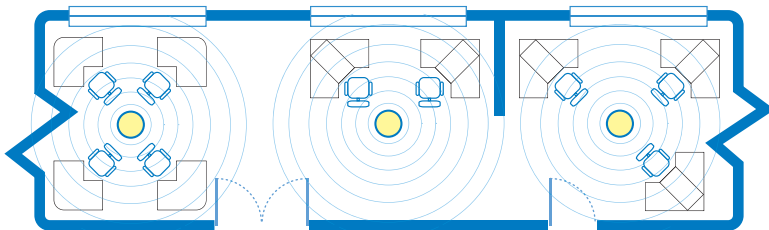
## 3. Occupancy sensors

Movement sensors ensure lights are only on when people are present. They're particularly suited to intermittently used areas such as rest rooms, kitchens and storerooms where they can deliver big savings.

- The use of a time delay ensures occupants can safely leave without being plunged into darkness. It also ensures lights are not constantly being switched on and off.
- A second type of occupancy sensor known as 'absence detecting' is suited to an office environment. Lights are switched on manually but the sensor turns them off when the space becomes unoccupied, so the office isn't lit unnecessarily.

### Points to raise with the installer

*Occupants should be detected at all times, so more than one sensor may be needed. Discuss options with an installer and check controls will not switch the lights on and off frequently as this will annoy occupants.*



Ensure there are sufficient sensors to detect everyone in the area, taking into account any obstructions.

# Walk round to keep your lighting under control

Walk round your building, both during and outside normal working hours, looking out for signs of poor control:

- Lights on when there is sufficient daylight or in unoccupied areas.
- Poorly labelled, hidden or obstructed light switches.
- Too few switches controlling many lights.
- Staff complaining of too much light.

If these ring any alarm bells, use this guide to help you identify areas for cost and energy savings.

## Get your staff involved

*Significant energy costs and therefore savings, are a result of occupant behaviour. Lights turned on at the start of the day could well be lit all day unnecessarily. Raising staff awareness and commitment is vital. Posters and stickers to help you are available from the Carbon Trust.*

# Choosing equipment and an installer

- If you want to be certain your new lighting is energy efficient, choose components from the Energy Technology List which is available at: [www.eca.gov.uk/energy](http://www.eca.gov.uk/energy)
- Ask neighbouring companies if they can recommend an installer or contact trade associations e.g. the Electrical Contractors Association or NICEIC.
- Always get more than one quote and ask for, and check references from previous clients.

## Need more help or information?

Call the Carbon Trust on:

**0800 085 2005**

visit [www.carbontrust.co.uk/energy](http://www.carbontrust.co.uk/energy)

or email [customercentre@carbontrust.co.uk](mailto:customercentre@carbontrust.co.uk)

The Carbon Trust helps businesses and public sector organisations cut their energy costs to combat climate change through the provision of free, professional advice and assistance.

The Carbon Trust works with business and the public sector to cut carbon emissions and capture the commercial potential of low-carbon technologies.

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