Set daylight sensors, motion and presence sensors correctly

The lighting control is equipped with a motion and presence sensor or a daylight sensor – but the light does not switch off, even though sufficient daylight is available and nobody is present in the room.

Action
Set the daylight setpoint and the after-run time so that the lighting switches off as soon as the incoming daylight is sufficient or as soon as nobody is present in the room.

Requirement
The lighting control must have a motion sensor, presence sensor and/or daylight sensor.

What to do
1. Set the daylight setpoint correctly
– Measure the illumination level with a lux meter and compare it to the recommended values (see overleaf).
– Gradually reduce the lux setpoint on the sensor (A) until the lighting switches off at the recommended value.

### 2. Set the correct after-run time for the presence sensor
Set the time on the sensor (B) (for recommended after-run times, see overleaf).

3. Pay attention to the coverage area
The motion or presence sensor should be set so that people are detected within the desired radius. The switched luminaire must not be located within the sensor's coverage area. The sensor should be at least 1 metre away from the object – i.e. the person to be detected.

4. Observe and correct
Pay attention to complaints and correct the set values as necessary.
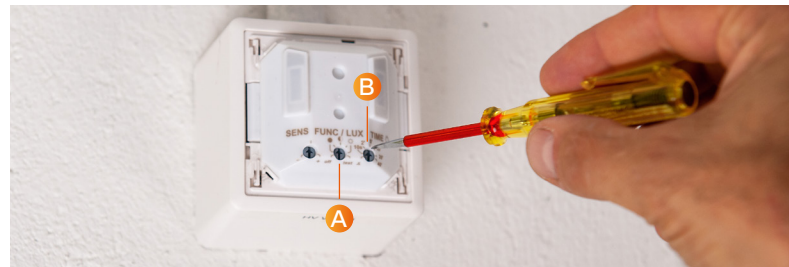
Costs – effort
– A lux meter measures the illumination level. Simple meters cost about CHF 100 from mail-order electronics vendors.
– Your own labour per room: 10 to 20 minutes.

Please note!
– Record every adjustment of the setpoints in writing.
– If there is no scaling on the controllers, a photograph of the setting is helpful; it is best to print and store this photograph.
– Safety: in areas where there is a risk of falling (e.g. staircases, ramps), the daylight setpoint should only be reduced to an extent that ensures compliance with the recommended illumination levels (100 to 150 lux).
– Install presence sensors in protected locations with unimpeded visibility. The coverage area is limited by objects such as glass partitions and furnishings.
– The installation height influences the sensor's coverage area. As the installation height increases, the range also increases but the sensitivity of detection decreases sharply.

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Additional explanations

Recommended illumination levels

Depending on the room and how it is used, different illumination levels are recommended to create optimal working and usage conditions. The illumination level is measured in lux.

Room, usage type	Illumination level, lux
Offices, administration	
Reception, simple work	300
Office, PC, workstations, meeting rooms	500
Office, storage/filing areas	300
Hospitals, care homes	
Waiting rooms and common rooms	200
Service rooms	500
Treatment rooms, operating theatres	1000
Patients' rooms, recovery rooms	100
Patients' rooms, lighting for reading	300
Therapy rooms, gymnastics and massage rooms	300
Medicinal baths	300
Laboratories and sterilisation rooms	500

| Room, usage type	Illumination level, lux
Catering outlets, canteen/refectory	
Kitchen, utility/laundry room, linen room	500
Restaurant, dining rooms	200
Self-service facility, office	500
Buffet, counter	300
Cold stores	100
Schools	
Classrooms	500
Lecture halls, laboratory rooms, art/drawing rooms, workshops	500
Teaching rooms, law office, other offices, reading positions	500
Libraries, bookcases	200
Libraries, reading areas	300
Gymnasiums/sports halls, lighting class III	200–300

Recommended after-run times

The after-run time eliminates the annoyance of the lamp being switched on and off, and protects the lighting equipment.
– FL lamps, energy-saving lamps: 5 to 10 minutes
– LED lamps: 2 to 5 minutes

Determine the illumination level

With slat blinds, you can allow enough daylight to enter on a fine day by adjusting the slats so the appropriate illumination level is present at the workplace. Measure this with the lux meter.
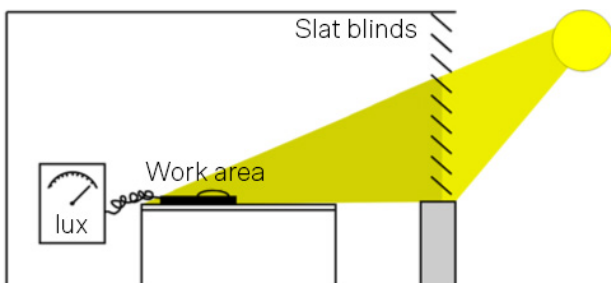
Explanations of the symbols

Every manufacturer uses a slightly different designation for the potentiometers used to set the values. The most frequent symbols are:
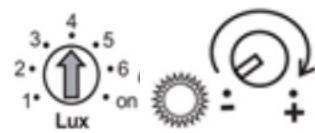
Daylight sensor: can be identified by the word "lux" or the sun symbol.

After-run time: can be identified by the word TIME or the clock symbol.

Additional information
– Technical book: "Light in the home – energy-efficient lighting", www.faktor.ch
– Efficient lighting for small businesses