The DIMLITE system was developed to make it easier to get into the
world of lighting management: DIMLITE is a simple lighting control
system for individual rooms. Whether you are a designer, install-
ing electrician or end user, you will not need any training or a spe-
cialist technician because the system manages entirely without any
commissioning or addressing.

The DIMLITE basic module is available in four different versions,
which offer an ascending range of functions. What is practical is that
functions use the same logic across the entire range and that makes
operation even easier. This way you can be sure of finding the
perfect equipment for every application.

Our product range includes:

- Complete packages with a control module and control unit
- All the products needed to control luminaires via infra-red sensors
  or an infra-red remote control
- All the modules needed for daylight-based control

There are various ways of using lighting control systems
to cut energy consumption. All of them are based on digital
dimmable luminaires.

- Luminaires dimmed by a presence detector can save
  15–30% of energy.
- Luminaires dimmed manually by momentary-action
  switches can save 30% of energy.
- Luminaires automatically dimmed by daylight-based control
  can save 40–60% of energy.

zumtobel.com/dimlite
DIMLITE individual room control
Little effort, huge effect

DIMLITE basic modules

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<th>Functions</th>
<th>Components that can be integrated</th>
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<tr>
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<td>Number of DALI luminares</td>
<td>Number of DSI luminares</td>
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<tr>
<td>DIMLITE single</td>
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<td>25</td>
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<td>DIMLITE daylight</td>
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<tr>
<td>DIMLITE 2 ch</td>
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<td>50</td>
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<td>DIMLITE 4 ch</td>
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DIMLITE compared with other lighting control systems

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<th>KNX</th>
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<tr>
<td>Data line</td>
<td>Separate line</td>
<td>Two bus systems (KNX and DALI or 1 – 10 V)</td>
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<tr>
<td>Functions</td>
<td>Various units are required for implementing different functions</td>
<td>Various units are required for implementing different functions</td>
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<tr>
<td>Dimming levels</td>
<td>Different brightness levels due to conduction losses</td>
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<td>Commissioned using PC with software that must be paid for</td>
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<td>Commissioned by</td>
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<tr>
<td>Functionality</td>
<td>Can be used immediately</td>
<td>Must be programmed before testing and functioning</td>
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</table>

To be installed in luminaire or recessed into ceiling

To be installed in switch cabinet

DIMLITE single: Quick problem-solver for synchronous dimming and presence-based control.

DIMLITE daylight: World champion energy saver for daylight-based dimming and presence-based control.

DIMLITE multifunction 2 ch and 4 ch: multifunctional device with many energy-saving and convenience functions, Plug & Play installation using AUTO setup.
Plug & Play
Just a few steps to implement an energy-saving lighting solution

1. DIMLITE basic modules are universally usable units that can be supplemented by expansion components such as presence detectors, light sensors or scene modules. These are simply ordered separately.

2. A screwdriver is the only tool that an electrician needs to install a DIMLITE lighting control system. First of all install the basic unit in the switch cabinet ...

3. ... then connect the luminaires. Cabling can be performed using standard commercially available NYM materials. In the case of digital control by DALI or DSI, the outlets are protected against polarity reversal.

4. Then connect the appropriate sensors and control units to Control In on the DIMLITE basic module. No additional device in the switch cabinet is necessary, ...

5. ... The basic unit initialises itself in just a few seconds. The green LED indicates that the system is ready for service. That’s “Plug & Play” in the truest sense of the word.

6. The system is then ready to operate. Lighting scenes can be modified and daylight characteristics can be adjusted as required.
Daylight-based control
A better alternative to daylight-based dimming

Daylight-based dimming
Most commercially available systems for saving energy use an indoor sensor that measures the reflective area directly below the sensor (look-down).

Daylight-based control
Zumtobel exclusively uses the more robust method of daylight-based control and the open-loop control method that is preferred by scientists – using just a single sensor which selectively measures incoming daylight but is unaffected by artificial lighting and its reflections (look-out).

Closed-loop control
Sensors installed in the ceiling or in luminaires measure the total artificial light and daylight reflected by surfaces. The output value of the controller is also measured and it is therefore a closed-loop control system.

Open-loop control
The sensor is installed so that it faces the window. It therefore only measures incoming daylight. One control unit is used to add only as much artificial light as required by the prevailing daylight situation.

Influence of reflections
If the reflectance value changes, e.g. due to a white newspaper being spread out on a dark desktop, the control function reduces the artificial light, even though the prevailing daylight conditions in the room remain unchanged.

Not adversely affected by reflections
The great difference is that, with this method of control, the output value for artificial light is not measured. So, if furniture or fixtures change, there is no need to adjust the daylight-based control system.

Installation
The measuring ranges of several sensors must not overlap. Luminaires could interfere with each other, and this would result in lighting fluctuations. If reflective surfaces change (e.g. furniture is brought in) after installation, this also has undesirable effects.

Installation
Only one sensor per room is required. This ensures stable, robust monitoring of daylight – even if several groups of luminaires in the room are dimmed to different levels. Because fewer sensors and less equipment cost less, payback periods are extremely short.

Application area
The sensitivity of the sensor is usually too low to ensure good lighting control in rooms with ceiling heights of more than 3 m.

Application area
The sensor can be used for rooms with any ceiling height and is therefore absolutely perfect for industrial buildings with skylights.

Commissioning
Involves considerable effort because each sensor must be set up individually. This job has to be repeated every time a unit is replaced.

Commissioning
Every group of luminaires is given an appropriate control characteristic equivalent to the daylight factor in question; this requires just a few simple steps. Artificial lighting is dimmed to save energy with just one sensor – a robust and reliable solution.

Cluttered ceiling look
Because each sensor operates with its own setpoint, this may result in messy patches of light on the ceiling.

Uncluttered ceiling look
Rows of luminaires are uniformly dimmed and are not affected by localised reflections. The ceiling has a uniform look.
Daylight-based control system
This is how simple commissioning can be

At the time of commissioning, each group of luminaires in the room is given an appropriate control characteristic for its daylight factor. As the illustrated story on the next page shows, taking the example of a DMLITE control system, this setting is very easy to make and only has to be done once. Only a standard light meter is required to do this. This luxmeter is used to accurately set the desired lighting level.

It is usually sufficient to program the so-called day point. This can be accomplished at any time of day, ideally while it is quite light outdoors. However, the sensor must not be exposed to direct sunlight. Twilight and night time are not suitable.

Precisely defining the daylight measuring point is an important detail in order for daylight-based control to work properly. In the case of Zumtobel DMLITE this can be done in just a few simple steps. The system needs only a small number of modules and units, is easy to install and is very reliable in operation.
Daylight-based control system
This is how simple commissioning can be

1. Rows of luminaires and a light sensor have been installed, it is time for commissioning.

2. Pick up your luxmeter and screwdriver.

3. Measure the illuminance level underneath each row of luminaires at a relevant location.

4. Then manually dim the rows of luminaires ...

5. ... until the required lighting intensity (e.g. 500 lx in an office) is obtained.

6. Then press the screwdriver into the light sensor’s opening once.

7. The luminaires briefly flash, the day point has been stored.

Practical tips

- It is vital to use a luxmeter, as the human eye cannot distinguish illuminance levels.

- A lighting control system operates slowly in order to ensure smooth lighting changes. When setting dimming levels, therefore always wait around 1 minute and then take a check measurement.

- The stored twilight point is factory set at 100% but can be modified if required.
  
  One tip: Mask the sensor (for longer than 1 minute), then adjust the artificial light (allowing for the maintenance factor, a level of around 80% is usually sufficient in the case of new systems) and press briefly (double-click) into the light sensor’s opening.

- Positioning the sensor correctly is just as important as measuring the illuminance level accurately. Do not install it too close to the window, but it must nevertheless have an unobstructed view of the window. No direct or indirect light from artificial light sources must impinge on the sensor. Precise instructions can be found in the daylight sensor’s installation instructions. These can be found online at www.zumtobel.com/20731906

- A rough-and-ready check of the system (“Is it actually working?”) can be carried out in daylight by covering the sensor or, when it is dark, shining a torch on the sensor.
**Room type 1**
Small classroom

**Non-controlled solution**
- Lighting is switched on 100% every day
- The required illuminance level (300 lx) is occasionally overshot and undershot
- There is no possibility of dimming
- Lighting is sometimes left switched on overnight using unnecessary energy

**Objectives of lighting control**
- Save energy costs
- Improve user convenience

**Functions for achieving objectives**
- Daylight-based lighting management
- Presence-based management
- Manual dimming

**Functional description**
DIMLITE daylight offers the possibility of switching the two groups of luminaires on and off individually and dimming them manually. The LSD look-out sensor is used to control the individual groups of luminaires in a daylight-based manner depending on outdoor brightness in order to save energy while ensuring the required illuminance of 300 lx.

A presence detector combined with DIMLITE’s Only-OFF function makes sure that the lighting is never switched on when nobody is present or it is not needed. The delay time has to be set on the presence detector. There is no risk of the lighting being inadvertently switched on by the presence detector when entering the classroom thanks to the Only-OFF function. The lighting always has to be switched on manually by the momentary-action switch.

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**The package includes**
- 1 x DIMLITE daylight
- 1 x LSD light sensor
- 1 x standard presence detector
- 1 x standard double momentary-action switch
- DALI dimmable luminaires
Room type 2
Medium-size to large classroom

Non-controlled solution
- Lighting is switched on 100% every day
- There is only one lighting scene for all teaching methods
- There is no possibility of dimming
- Lighting is sometimes left switched on overnight

Objectives of lighting control
- Save energy costs
- Improve user convenience
- Improve flexibility

Functions for achieving objectives
- Daylight-based lighting management
- Presence-based management
- Programmed lighting scenes at the touch of a button
- Manual dimming

Functional description
Four groups of luminaires can be switched on and off and dimmed separately or together on the DIMLITE multifunction. Various sensors and control units can be connected to the unit’s Control-IN input:
Look-out sensor ED-EYE is used to control the individual groups of luminaires in a daylight-based manner depending on outdoor brightness in order to save energy while ensuring the required illuminance level.
An ED-SENS presence detector combined with DIMLITE’s Only-OFF function makes sure that the lighting is never switched on when nobody is present or it is not needed. The delay time can be set on DIMLITE multifunction 4 ch – from 0 s to 60 minutes. There is no risk of the lighting being inadvertently switched on by the presence detector when entering the classroom thanks to the Only-OFF function. The lighting always has to be switched on manually by the momentary-action switch.
In the entrance area there is an ED-CCW scene control unit, which can be used to switch all the lighting off and choose one of 3 presence scenes. Scene 1 is always based on daylight. Static scenes 2 and 3 can be individually set and called up.
Four standard momentary-action switches that make it possible to switch and dim the 4 individual groups of luminaires can be connected to momentary-action switch input module ED-SDED2.

The package includes
- 1 × DIMLITE multifunction 4 ch
- 1 × ED-SDED2 switching/dimming input
- 1 × ED-EYE light sensor
- 1 × ED-SENS presence detector
- 2 × standard double momentary-action switch
- 1 × CIRCLE ED-CCW control point
- DALI dimmable luminaires
Room type 3
Secretary’s office, office, small meeting rooms

Non-controlled solution
- Lighting is often switched on 100% throughout the day
- The required illuminance level (500 lx) is occasionally overshot and undershot
- There is no possibility of dimming

Objectives of lighting control
- Save energy costs
- Improve user convenience

Functions for achieving objectives
- Daylight-based lighting management
- Presence-based management
- Lighting scenes
- Manual dimming

Functional description
The DIMLITE multifunction 2ch basic module offers the possibility of switching the two groups of luminaires on and off individually and dimming them manually.
An ED-CCW scene control unit is located in the entrance area and at the other end of the office to allow control. Both groups of luminaires can be manually dimmed and individual scenes can be called up there. Scene 1 is always based on daylight. Static scenes 2 and 3 can be individually set.
Look-out sensor ED-EYE is used to control the individual groups of luminaires in a daylight-based manner depending on outdoor brightness in order to save energy while ensuring the required illuminance level of 500 lx.
A presence detector combined with DIMLITE’s Only-OFF function makes sure that the lighting is never switched on when nobody is present or it is not needed. The delay time can be set on DIMLITE multifunction 4ch – from 0 s to 60 minutes. There is no risk of the lighting being inadvertently switched on by the presence detector when entering the office room thanks to the Only-OFF function. The lighting always has to be switched on manually by the momentary-action switch.

The package includes
- 1 × DIMLITE multifunction 2ch
- 1 × ED-SENS presence detector
- 1 × ED-EYE light sensor
- 2 × CIRCLE ED-CCW control point
- DALI dimmable luminaires
Non-controlled solution

- There is an either-only situation: The groups of luminaires are on or off
- It is not possible to respond to the various requirements of campaigns or events

Objectives of lighting control

- Improve user convenience

Functions for achieving objectives

- Programmed lighting scenes at the touch of a button
- Manual dimming

Functional description

On entering the boutique, the entire sales area is not brightened up, only the ambient lighting in the entrance area is switched on. On exiting, it is possible to use the central all-off momentary-action switch to switch all the luminaires 100% off – without previously having walk through the dark room. The appropriate lighting scene is selected using the CIRCLE control point in the POS area. This means that the various groups of luminaires do not have to be reset and matched to each other on a daily basis. Far from it: three programmed lighting scenes are available at the push of a button and can be adapted by the actual user or re-defined if required.

The separate luminaire in the stores is switched on and off by a momentary-action switch but can also be dimmed. It is also switched off using the central momentary-action switch so that precious energy is not inadvertently used overnight.

The package includes

- 1 × DIMLITE multifunction 4-ch
- 1 × CIRCLE ED-CCW control point
- 2 × ED-SDED2 switching/dimming input
- 1 × standard momentary-action switch
- 1 × standard double momentary-action switch
- DALI-dimmable luminaires
Non-controlled solution
- All areas, even those that are not being used, are switched on 100%

Objectives of lighting control
- Save energy costs

Functions for achieving objectives
- Presence and absence-based management
- corridorFUNCTION

Functional description
In the areas between the shelves, 100% lighting is required only if at least one person is present. ED-SENS presence detectors can be allocated to individual luminaire groups and will dim up a specific luminaire group to 100% only when somebody is present in the area they cover. As manual operation is not necessary, no cumbersome positioning and wiring of control units is required, since the lighting is switched on by the corridor function when people are present and is dimmed down to 10% when nobody is present. This ensures that people never have to enter dark corridors, promoting a feeling of safety and well-being.
Room type 6
Corridor, passageway

Non-controlled solution
- Lighting can only be switched on or off 100%
- Lighting usually remains switched on

Objectives of lighting control
- Save energy costs
- Improve safety

Functions for achieving objectives
- corridor FUNCTION

Functional description
The corridor function on the DIMLITE single basic module and the connected presence detectors switch on the lighting 100%, or switch it to the previously set light level if people are present. If there is no one within the area monitored by the presence detector, the luminaires dim down to 10% within approximately 1 minute. The delay time is set on the presence detector.
The advantage of the 10% minimum level is that no one has to enter a dark room and wait until they are detected by the presence detector. This also provides the necessary ambient lighting in case of video surveillance. An additional momentary-action switch can be used to switch the lighting on or off as required, regardless of the presence detectors.

The package includes
- 1 × DIMLITE single
- 1 × standard momentary-action switch
- 2 × standard presence detector
- DALI dimmable luminaires
Room type 7
WC facilities

Non-controlled solution
- Lighting is often switched on 100% throughout the day
- Due to the service life of compact fluorescent lamps, presence-based control is dispensed with

Objectives of lighting control
- Save energy costs

Functions for achieving objectives
- Presence and absence-based management
- corridorFUNCTION

Functional description
The presence detector switches the lighting on when people are present and dims it down to 10% when nobody is present. The delay time is set directly at the presence detector. This ensures that people never have to enter a dark room, especially in public toilets. Yet, compared to installations where the lighting is maintained at 100% all the time, plenty of energy is saved.

The package includes

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<tr>
<th>Item</th>
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<tbody>
<tr>
<td>1 × DiMLITE single</td>
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<tr>
<td>1 × standard presence detector</td>
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<tr>
<td>DALI dimmable luminaires</td>
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