Lighting control systems

ELS • DALI-ELS • MD • EMD

ETAP

Individual light control for each luminaire

ETAP have developed various lighting systems that control the light of individual luminaires:

- ELS (ETAP Lighting control System) dims the artificial light depending on the amount of daylight.
- DALI-ELS combines the functionality of ELS with DALI (Digital Addressable Lighting Interface, the industry standard for the management of luminaires via a network) and makes luminaires flexible, addressable, adjustable and dimmable.
- MD (Movement dependent) dims and/or switches the light (depending on the settings) when no movement is detected.
- EMD (ETAP Multisensor for DALI) combines the functionalities of DALI-ELS and MD with infrared (IR) remote control and DALI.

ETAP Multisensor for DALI, digital addressability, adjustable and regulating.

IR offers wireless remote control per luminaire.

The ELS daylight-linked system reacts to changes in the amount of daylight.

MD adjusts the artificial light level according to human presence.

Man and ergonomics

A lighting control system should not be intrusive. Individual lighting control systems are barely perceptible because they respond immediately but gradually to the changing conditions at the workstation. The result: ergonomic systems and satisfaction guaranteed.

Energy-efficient innovation

Combined with innovative lighting control systems, ETAP luminaires guarantee low energy consumption and high levels of comfort.

Sober design and easy installation

The electrical installation does not need to be rewired to install ELS, DALI-ELS, MD and EMD. The existing electrical wiring and the possible DALI line can be used. The light is not controlled from a central location, but individually for each luminaire. The luminaires without DALI have been preset. The addresses and settings of DALI systems can be set using switches or software at a later time. You can do this yourself or with the help of our specialists. Their flexibility and universal application mean the systems can be used for both new developments and renovations.

ETAP is a 'Main Endorser' of the GreenLight Programme, an initiative of the European Union. The objectives of the GreenLight Programme are to stimulate governments and companies to bring down the energy consumption from lighting, thus reducing greenhouse gases and limiting global warming. Contact ETAP for a Greenlight brochure.

DALI

GREENLIGHT

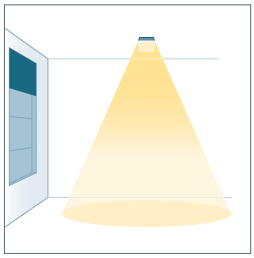
Benefiting from daylight

There is plenty of daylight, why shouldn't we make full use of it? By installing a luminaire based control system, you choose energy-efficient and ergonomic lighting comfort. ELS is inconspicuous, flexible and can be adjusted individually.

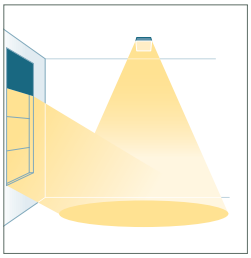
The ELS sensor is clicked on the lamp.

A success story

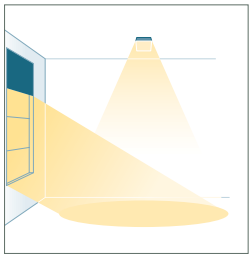
ETAP invented the energy-saving ELS daylight linking system. An individual light sensor in each luminaire dims the artificial light depending on the amount of daylight. All day you are able to work with comfortably controlled daylight dependent light. Throughout Europe, hundreds of thousands of ETAP luminaires have been fitted with the ELS daylight linking system.



Artificial light: based on a situation without incident daylight.



More light than needed when daylight enters.



ELS enables you to benefit from daylight and save on artificial light.

ELS daylight linking system integrated into downlights.

In the Netherlands, ELS was awarded the acknowledgement of 'Good Industrial Design'.

ELS won the Belgian Eco prize.

Acknowledgement

The ELS daylight linking system won the Belgian Eco prize and the Dutch GIO foundation awarded ELS the acknowledgement of 'Good Industrial Design'. However, the most important prize is the acknowledgement of the numerous users, with more and more converts every day ...

ELS also has multiple applications in industry.

Saving energy with ELS

ELS allows you to save a great deal of money on your electricity bill, even on a cloudy day. ELS prevents unnecessary heat generation, thus reducing the expensive air-conditioning load (especially in the summer). To have an idea of the actual amount of energy saved, the energy consumption of ELS linked lighting was measured over the course of several years in dozens of offices. The result was a saving of 25 to 55 % compared to non-dimmable electronic ballasts. In renovation projects, measurements indicated savings of up to 80 %. A considerable saving considering that office lighting is often responsible for more than half of the electricity consumption in a building.

ELS compensates for maintenance factor

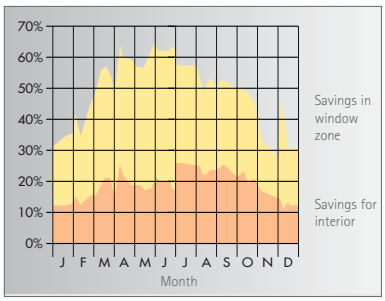
Lighting design practice makes provision for falling light output due to for example aging of lamps and dust (maintenance factor). Initial illumination levels are often 25 percent above designed maintained levels. This excess light is automatically dimmed by ELS resulting in considerable energy savings.

Control the lighting level individually for each luminaire

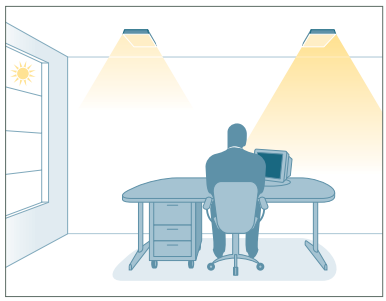
ELS controls the lighting for each luminaire depending on the amount of light under the luminaire. Moreover, each ELS light sensor is continuously variable, allowing you to set the level for each workstation. This is especially convenient if certain employees want more or less light.

'Soft' control system, barely perceptible

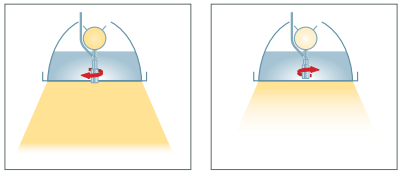
ELS is a 'soft' control system in that it does not cause any sudden, disturbing changes in the light level. The whole system operates without disturbing the users. Without delay, ELS adjusts the light level to the needs of the task at hand and only where necessary. Users don't notice the change, which, of course, is how it should be.



Savings with ELS expressed as a percentage in an office compared with non-dimmable electronic ballasts.



The amount you save, depends on the orientation and the daylight concept of the building (and other factors).



Every ELS light sensor is continuously adjustable, allowing you to adapt the light level perfectly to the requirements of individual employees.

DALI features combined with ELS advantages

DALI-ELS (Digital Addressable Lighting Interface combined with the ETAP light control system) regulates the lamp light per luminaire and uses existing DALI features such as scene settings, addressability, queries, ...

DALI-ELS: inconspicuously incorporated in U3 luminaires.

Energy savings

DALI-ELS is a light control system that dims or switches off the artificial light depending on the amount of daylight. This allows you to use the maximum amount of daylight and save up to 65 % on power consumption compared to electronic ballasts.

Maximum user comfort

By means of dip switches you can select upto four preset light levels. Should the required light level be obtained by daylight alone for more than five minutes DALI-ELS will switch the light off.

One lighting interface

DALI-ELS can either operate as a stand alone luminaire based daylight linking solution. Alternatively, it can be integrated into larger DALI networks comprising of additional luminaires, scene set panels and other DALI devices. DALI-ELS integrates seamlessly with extensive DALI networks.

Easy installation

DALI-ELS is an inconspicuous light control system with maximum comfort: low-energy, universal application and easy to set. Settings can be changed afterward using miniature switches or the DALI configuration software.

DALI-ELS also suitable for Luxial® downlights.

DALI-ELS: easy to set.

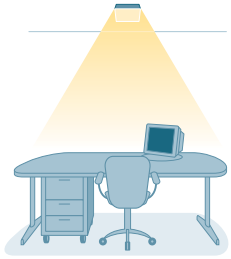
ETAP is member of AG-DALI
www.dali.ag.org

Dimming the light when no one is present

Lighting installations in open offices usually provide uniform lighting over the whole space. When a workstation is not used, energy is wasted. Automatically switching off the lights above these unused spots is not a solution. Practical tests have shown that switching off individual luminaires in large spaces is very disturbing for other people present. This is why ETAP developed MDD, a Movement Dependent Dimmer.

When motion is detected under the luminaire, the lamps burn at normal power.

When no motion is detected, MDD waits for a while.



MDD gradually dims the lamps to the lower set level.

Once motion is detected, MDD restores the light to its normal level.

Motion dependent dimming

MDD's sensor is motion sensitive. If motion is detected, the lamp burns at normal power. If no motion is detected below the luminaire for a certain period, the lamps dim automatically to a pre-set level. Dimming is not disturbing for people in adjacent workstations because it occurs gradually. Once motion is detected again, the lamp power gradually increases to the normal light level again.

Easy installation

One MDD sensor can be built in to serve one, two, three or four luminaires. MDD is most often discreetly incorporated into the partition or in the extension or next to the luminaire. This is how you save on installation costs. For other situations we will work out the best solution for each particular application.

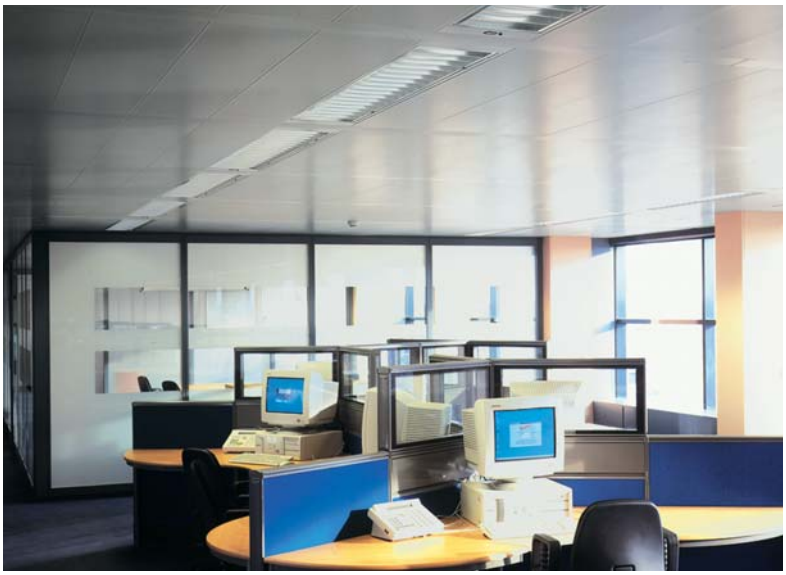
MDD mainly allows you to save on energy in large areas where workstations are not used over long periods of time.
MDD dims the light gradually, unnoticed and imperceptibly. MDD dims lamps that are burning unnecessarily at full power. MDD prevents this heat generation, thus reducing the expensive airconditioning load.

Easy to set

Miniature switches allow you to choose one of the four minimum dimming levels and one of the four reaction time delays. A relay can be installed as an option for optimal savings. When the lamps reach their minimum dimming level, this relay will automatically switch off the light.

Combined with ELS for maximum savings

By combining MDD and ELS, you save even more. In this case, ELS determines the level of the luminaires when people are present and MDD dims the light when no one is present. A dip switch allows you to choose between four light output levels. Depending on the needs of the user the light levels can in addition be continuously regulated for each luminaire.



MDD combined with ELS: ideal solution to save energy in open plan offices.

MDD with a miniature movement sensor.

MDD: easy to set thanks to dip switches.

Switching off the light when no one is present

While MDD is particularly useful in large spaces, ETAP has also developed a solution for smaller offices. individual offices, classrooms, conference rooms, etc., the light is usually switched on in the morning and the rest of the day, sometimes all evening or night. To save energy, it would be far more efficient to switch the light when no one is present. This is why ETAP developed MDS, a Movement Dependent Switch.

MDS can be built into the housing of the luminaire very easily.

Combine MDS with ELS for optimal savings.

MDS built into luminaire for task lighting.

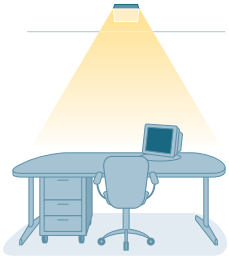
A motion sensor switches off the light

MDS works with a motion sensor. As long as movement is detected within the room, the light burns at its normal level. When the sensor detects no movement after a certain waiting period, MDS switches off the lamps. And when movement is detected again, the luminaires are switched on.

One MDS can be built in for every one to four luminaires. A number of MDS sensors can be connected in parallel to avoid switching off certain luminaires. When connected in parallel, the luminaires in the room are only switched off when none of the MDS sensors can detect any movement across the whole space.

As long as motion is detected in the office, the lamps continue to burn at the normal level.

When no movement is detected, MDS waits a while.



MDS switches off the light.

Once motion is detected under the luminaire, MDS restores the light to the normal level.

MDS can save a great deal of energy in an individual office.

MDS guarantees significant savings on your electricity bill by switching off the light when it is not necessary. When the lamps are switched off, no heat is generated, allowing you to save on air-conditioning as well.

Easy installation

MDS can be built into the luminaire extension or housing, allowing you to save on the installation costs. Pre-assembled plugs allow you to connect several luminaires to one sensor. Simple 'plug & play' connections guarantee easy installation in minimum time.

Easy to set

The waiting period of MDS is easy to set using a built-in control. The standard setting on delivery is 15 minutes. The waiting period ranges between 30 seconds and 25 minutes. A plastic shield also allows you to determine the exact detection field in which movement is to be detected.

Combined with ELS for maximum savings

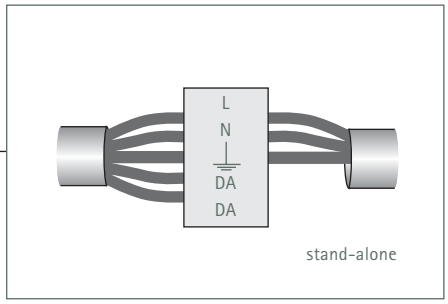
For maximum savings, combine a light and a movement sensor in one luminaire.

A plastic shield allows you to determine the exact detection field for the MDS.

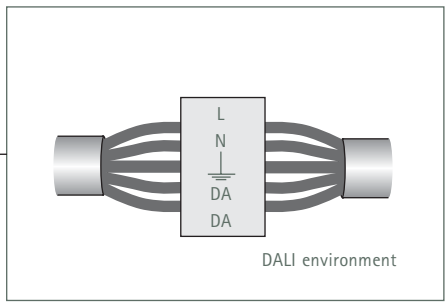
MDS is highly effective in spaces where people are seldom present.

Addressable intelligent luminaires

The miniature multisensor controls the light, depending on the amount of daylight, presence of users, or by infrared remote (IR) control. Luminaires with EMD can be incorporated in a DALI network, meaning all standard DALI features can be used. These luminaires are flexible, addressable, adjustable and dimmable.



Luminaires with EMD, connected to the mains voltage are stand-alone and intelligent.



Luminaires with built-in EMD are immediatly recognised in a DALI environment.

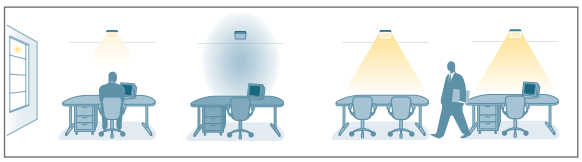
Considerable energy savings

The combination of ELS and MD features allow the ETAP Multisensor for DALI to control the artificial light based on the available amount of daylight and movement. Lamps that are switched on unnecessarily, are either dimmed or switched off. Thus you can save you up to 70% on your energy otherwise used for lighting

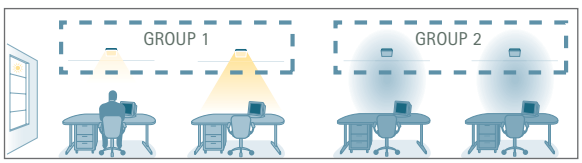
Remote lighting control

EMD can be regulated by IR remote control. In case you want to change the grouping of luminaries, e.g. because layouts change, the lighting can be adapted without the need of rewiring. Luminaires with EMD can be allocated in different groups.

Regrouping of the lighting without the need of rewiring.



Light is controlled depending on the amount of daylight and movement.



Luminaires are grouped. If motion is detected by one luminaire of the group, the whole group stays activated.

In one group scene settings can be called on with one press on a button.

Different lighting scenarios

Your scene settings per group can be easily stored in the system. One press of a button allows you to access the desired lighting scenarios, e.g. a setting to hold a meeting or a setting to make a presentation.

Easy to install and customise

EMD is built into the luminaire and allows you to customise the lighting. The minimum dimming levels and the reaction time of the sensor can be programmed. ELS, MD, and the IR remote control operates with all their functions. The luminaire with EMD is connected to the mains voltage. Luminaires with built-in EMD are recognised in a DALI environment as a DALI luminaire. Settings can be changed easily and at all times through dip switches within the luminaire or program changes within the DALI network.

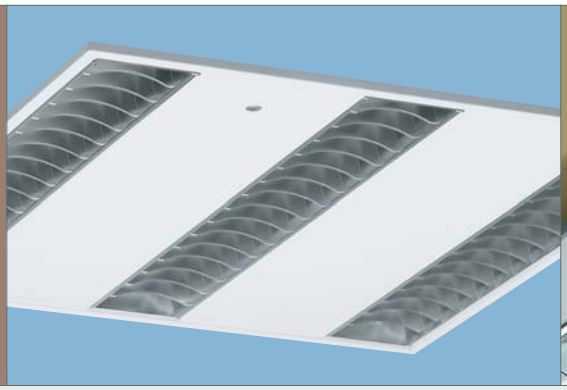
Intelligent luminaires

Luminaires with EMD combine the best of two worlds. Your settings determine how the luminaire reacts to daylight, movement and infrared commands. The DALI network allows you to change preferences, and grouping, and to monitor and change the central controls. In other words: EMD offers you comfort, flexibility, and tremendous energy savings.

ETAP offers you the following lighting control systems:

ELS

Adjusts light output
as daylight changes



MD

Dims and switches
when no one is present.

EMD

ELS, MD combined with
infrared remote control
and DALI-controls.

Advantages

- saves energy
- comfortable
- luminaire based control systems
- applicable everywhere, also in a DALI environment
- flexible
- easy installation
- discrete

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