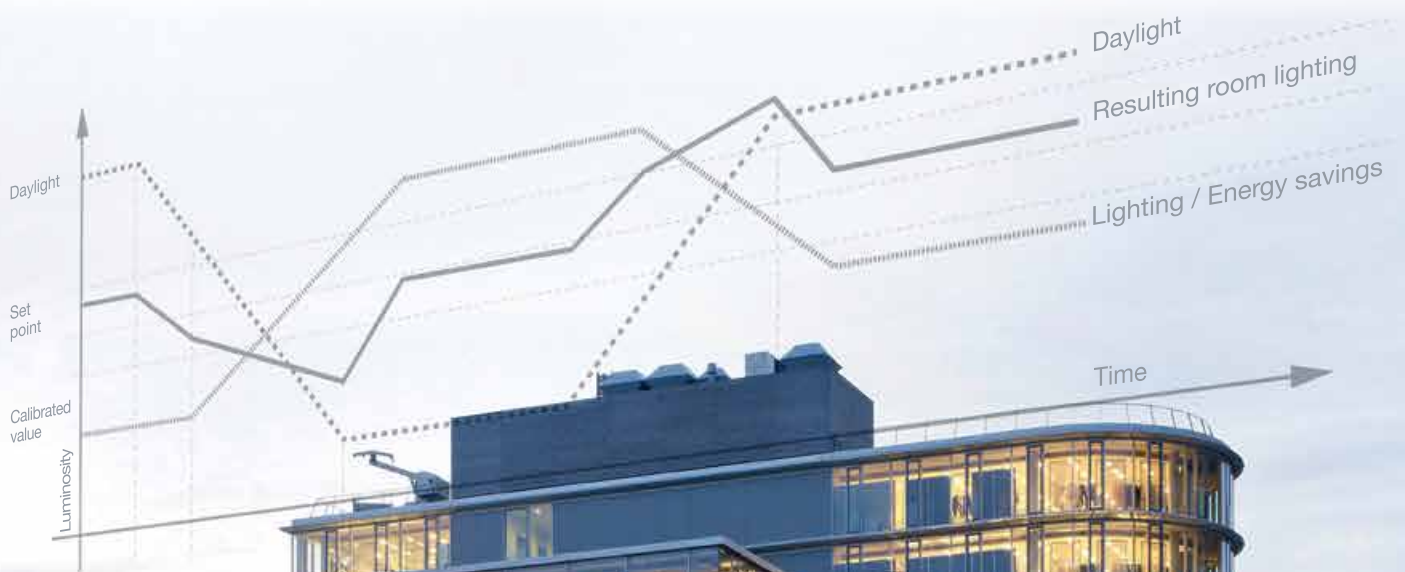


Lighting on demand

Energy-efficient lighting in functional buildings



hager
60
1955-2015

Let there be light But efficiently, please!

In many ways, Thomas Alva Edison's "Electric Lamp" patent 223.898, which was issued on 27 January 1880, heralded the second dawn of creation. Since then people living in the modern world have been enlightened in more ways than one. Electric light illuminates our homes, streets and towns and controls our professional lives; it would be hard to imagine our daily lives, particularly after work, without it.

Lighting control also plays an important role in modern facility management. Not only to produce ideal living and working conditions but also to achieve the best possible energy balance. At least 80% of total building costs are incurred during planning. Building operators wanting to reduce their running costs would be advised to appoint a few thrifty "controllers": on-demand lighting solutions from Hager! They enable energy costs for lighting to be reduced by up to 90%.

This brochure shows you how. And to help you save energy at an early stage, Hager is happy to support you with the planning and implementation of your project.





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Safety is in sight

Outdoor motion detectors

Building safety starts right in front of the building – with perfectly equipped electronic “security personnel” such as Hager’s outdoor motion detectors! They keep their sensitive infrared eyes open and shed light on dark areas within seconds. This makes it safer to walk in wet and icy conditions, exposes steps and obstacles before it is too late and wards off any unwanted visitors.

Outdoor motion detectors are recommended for all security-sensitive outdoor areas in commercial and public buildings – e.g. schools, nurseries, sports and leisure centres or residential and nursing homes. They are frequently installed above entrances, courtyards, paths, access roads, car parks as well as in loading/unloading zones.



The full picture

With up to 360° vision

There is nothing better than good all-round visibility. That is why Hager's outdoor motion detectors have a detection angle of up to 360°. And the range of products you can choose from is similarly extensive. Hager has just the right solution for each intended use and location, ranging from our economical basic devices to our high-quality advanced units. All of Hager's outdoor motion detectors are fitted with keen Fresnel precision lenses and provide a reliable service even under adverse weather conditions thanks to their high IP55 protection rating.



Outdoor motion detector
Standard EE820



Outdoor motion detector
Enhanced EE870

Vigilant: detection angle between 140° and 360°

The detection angle varies between 140° and 360° depending on the requirements. The Enhanced EE87x motion detector even offers creep zone protection function. This ensures unbroken coverage even underneath the detector, which could otherwise be used to gain unnoticed access to grounds.

In order to position the detector in accordance with your requirements the following detection angles are recommended:

- Entrance areas, drives and courtyards: 140°
- Building facades: 200°/220°
- Local detection with creep zone protection: 220°–360°

Perceptive: simple to mount and programme

All motion detectors can be wall- or ceiling-mounted or even corner-mounted with the help of a holder from our range of accessories. All settings can be performed right at the front of the devices or, in the case of the Enhanced unit, by remote control. This is particularly useful if several detectors need to be programmed at the same time or if they are in places that are difficult to access. The power-on parameters can be changed from the ground at any time. No need for any ladder climbing, no risk of accidents – maximum safety!



Infrared remote control
EE806



LED Floodlight with PIR
220/360° EE600

Detection at very low-consumption

LED floodlights equipped with an IR motion detector which allows automatic control of the light when a movement is detected in the surveillance zone. Permits also to control other several receivers like detectors or IP55 receivers.



Smart installation on the wall

Outdoor motion detector enhanced with pin contacts

What are the interests of your customers? Reliable security! And yours? Easy mounting!
The new outdoor motion detector enhanced from Hager meets both expectations. Thanks to an innovative mounting process, this device will be installed faster than ever before. Also the established comfort features are part of a perfect night supervision for residential and commercial buildings. The innovative installations technique with pin-contacts makes the mounting very easy and safe during installation. After fixing the base plate on the wall, the motion detector will be pin on and fixed by screws – ready!

Quick, safe, clean

Indoor motion detectors

Nowadays our work environment tends to be fast paced. A suitable response to this accelerated way of living is provided by our indoor motion detectors. They are perfect in busy places, for example in transit areas such as corridors, staircases or walkways through basements in public buildings. They are particularly useful in sanitary areas of schools, sports centres, doctors' surgeries, hospitals or residential and nursing homes. Motion detectors improve not only the safety but also levels of hygiene: as no light switch needs to be pressed, the risk of transferred bacteria and viruses is reduced.



GAIETT



From top to bottom

Surface and flush mounted motion detectors

People wanting to save energy in the long term should raise their sights and think about Hager's ceiling motion detectors, for example. They are quickly and securely mounted at heights between 2.5 and 3.5 metres. They convince thanks to their high response reliability and long working life. As a result of the energy costs saved, the investment pays off within a matter of just a few years, while the convenience and increase in safety gained will continue for much longer.



Surface mounted motion detector EE804



Flush mounted motion detector EE805

360° panoramic vision

Ceiling motion detectors from Hager don't miss a thing. Thanks to their 360° all-round vision these detectors are perfect for covering large areas of up to 6 m in diameter. The high-quality Fresnel precision lenses react sensitively to infrared light, e.g. to the body heat of people veering into the detection area. Their motion is detected quickly and reliably via a heat sensor underneath the lens.

Surface-mounted and recessed installation

Hager's ceiling motion detectors are suitable for both recessed installation in suspended ceilings as well as surface-mounted installation in concrete ceilings – and therefore ideal when retrofitting existing buildings. They are also flexible in terms of programming:

- Time lag and brightness are set on the device itself via the potentiometer
- Adjustable brightness from 5 to 1000 lux
- Adjustable time lag from 5 s to 15 min



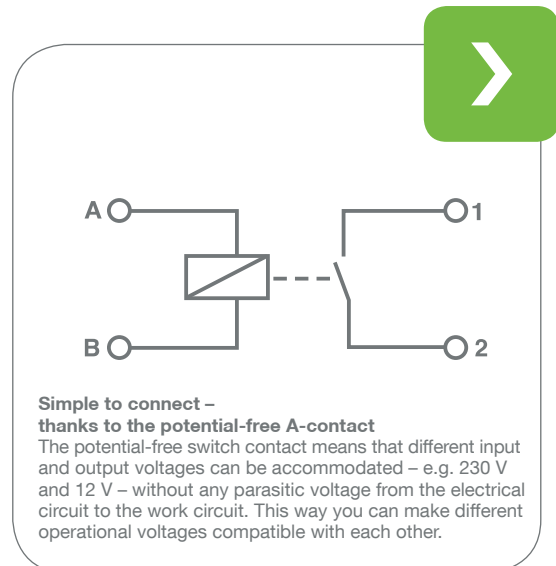
HF motion detector EE883

Hyper Frequency technology

The Hyper Frequency technology is totally independent from the temperature. The Hyper Frequency motion sensor can detect through light walls (wood, glass ...).

It can respond to different applications like:

- Hot temperature rooms
- Car parks
- Toilets
- Dressing rooms



Simple to connect – thanks to the potential-free A-contact

The potential-free switch contact means that different input and output voltages can be accommodated – e.g. 230 V and 12 V – without any parasitic voltage from the electrical circuit to the work circuit. This way you can make different operational voltages compatible with each other.

Powerful eye-catchers

Berker by Hager motion detectors for the wall

In addition to our ceiling motion detectors, Berker by Hager also has a wide range of recessed motion detectors for the wall. The advantage: not only do they see well thanks to their sensitive infrared sensors, but they also look very good due to the elegance of the switch design. They are eye-catchers in more ways than one.



Motion detector in aluminium B.7 frame



Motion detector in aluminium K.5 frame

Motion detector

The more your house looks after you, the less things you have to keep in mind. A motion detector ensures that your path is always lit automatically when you come home. It can switch the light in the stairwell, corridor or toilet on automatically when you need it.

Thanks to its precise detection, it guarantees perfect monitoring of any area of the house, thus scaring off uninvited guests. Berker controllers can meet all your comfort and safety requirements, and also help to save energy. This is because they only switch on the lighting automatically, when they detect movement within their defined detection field.

The wide range of motion detectors offers the perfect solution for every installation situation.



Motion detector in plastic polar white S.1 frame



When everything takes longer than usual

Occupancy detectors

Occupancy detectors go a step further than motion detectors: they react not only to quick movements, but also to the presence of people carrying out activities either sitting down or standing. The sensors are that much more sensitive. Ideal for offices, cafeterias, corridors, training rooms and sanitary facilities.



Intelligent watchdogs

Surface and flush-mounted occupancy detectors

Hager's occupancy detectors are bright, not only when they switch on but also when they switch off: while motion detectors wait until the switch-off delay has expired before cutting the light, occupancy detectors switch off as soon as the measured brightness is below the set brightness value. This saves additional energy costs.



Surface-mounted occupancy detector
EE811



Flush-mounted occupancy detector
EE815

Sitting pretty: the surface-mounted detector

Two see better than one! With the surface-mounted occupancy detector, two separately rotatable 360° sensors cover an extremely generous detection range of up to 18 m × 9 m. This means large rooms can be monitored by a single occupancy detector. The brightness value can be adjusted manually via the potentiometer. With the help of the surface-mounted casing from our range of accessories, the device can be retrofitted anywhere, quickly and economically.

Available in the following versions:

- EE810: Single-channel occupancy detector
- EE811: Dual-channel occupancy detector
- EE812: Occupancy detector / constant-light controller
- EE813: Surface-mounted casing for EE81x

Smooth line: the flush-mounted occupancy detector

It sees everything without being seen itself: Hager's flush-mounted occupancy detector can adapt to any surrounding thanks to its flat design. Its sensitive 360° sensor detects everything within a radius of up to 7 m. Brightness and switch-off delay are set manually via a slide-open operating panel, without having to dismount the detector. Current or preset values for the corridor and office are saved in the learn mode.

Available in the following versions:

- EE815: Occupancy detector, flush-mounted, 360°
- EE816: Occupancy detector, flush-mounted, 360° with DALI/DSI control
- TCC510S: Occupancy detector, KNX, with switching output
- TCC520: Occupancy detector, KNX, single-channel with 1-gang switching output
- TCC521E: Occupancy detector, KNX, with DALI/DSI control
- TCC530E: Occupancy detector, KNX, multi-channel



Infrared remote control
EE807 to adjust the settings



Infrared remote control
EE808 to operate the
detector

Well set: by remote control

With the recessed occupancy detector you and your customers will enjoy exceptional convenience: the IR remote control EE807 provides for the specialist easy adjustment of different parameters such as brightness, time delay or presence notification. All these settings can be done from the remote device when you don't have easy access to the detector.

With the EE808 at their fingertips, users can activate, deactivate or dim up to four occupancy detectors. In addition, stored light scenarios or brightness values can be activated at the touch of a button.

Dim the lights

And turn on the atmosphere

No matter whether it's a candlelight atmosphere, lounge feeling or the gradual darkening of a theatre, cinema or presentation room: with dimmers from Hager you can shed the perfect kind of light and create softly toned atmospheres for all kinds of occasions. Energy requirements decrease in proportion to the amount of light: 50% less luminosity means 50% less energy costs. At the same time the service life of the connected light is increased: the users and building operators save on both fronts.



Light control as you need it

Universal dimmers

Many commercial locations benefit from the ability to change the ambient lighting: restaurants and cafes, spa areas, conference rooms, event locations and showrooms. Hager's universal dimmers accommodate every kind of mood of light you could wish for thanks to their adaptability – no matter whether for individual lights, complete rooms or entire buildings.



Universal remote-control dimmer, 500 W
EVN004



Remote-control device with display
EV108

Widespread application – the universal remote-control dimmer

Hager universal dimmers of the EV type series are suitable for regulating incandescent lamps, 230 V and low-voltage halogen lamps. The dimming output is up to 1000 W. The universal remote-control dimmers of the EVN type series (available in two performance levels, 300 W and 500 W) can be used for almost all dimmable LED and energy-saving lamps* – without any flickering or problems switching on the light. The connected load type is recognised automatically by autoDetect. And easyDetect is used to set the maximum dimming range.

30 at one stroke – by remote control

To dim large areas of buildings at the same time, we recommend the use of a remote control. This enables you to control up to 30 EV remote-control dimmers at the same time. It is operated via external buttons or – in the case of the EV108 version – on the device itself. Dimming speed, minimum and maximum brightness as well as three preset brightness levels (only with the EV108) can be set via the display. When switched off or in the event of a power failure the device stores the last dimming level automatically.

*Exceptions: closed systems, e.g. digital technology.



KNX universal dimmer, 3 × 300 W
TYA663N



Berker K.1 touch dimmer switch in an anthracite frame

A real highlight: KNX universal dimmers

With KNX universal dimmers from Hager you can create beautiful light scenes in every building. To ease control of the different scenarios, it stores up to 32 brightness levels. KNX universal dimmers are perfect in combination with conventional bulbs, high- and low-voltage halogen lamps as well as energy-saving lamps and LED lights*. Via a sliding switch on the device, the dimmer can be detached from the bus system and changed to manual operation.

Available in three performance levels:

- TXA210AN: 300 W
- TXA210N: 600 W
- TXA213N: 900 W (variable power-output distribution: 3 x 300 W, 1 x 600 W + 1 x 300 W, 1 x 900 W)

KNX dimming scenarios can be activated either individually or in combination with other bus functions via multi-functional push-button sensors or touch screens. Read more about this as of page 32.

Fingers on the button - with the universal touch dimmer

Whatever the ambiance you wish or the lighting you are using, all can be managed thanks to the Berker by Hager universal dimmers. Thanks to their unique way to dim the light that automatically identifies the lamp-type, the dimming properties are optimally set according to the used load (autoDetect).

The flush mounted universal touch dimmer is able to control bulbs and halogen lamps, as well as dimmable 230 V-retrofit-LED's and energy saving lamps in a reliable, comfortable and sustainable way. If necessary the load can be fine tuned through the easyDetect-mode.

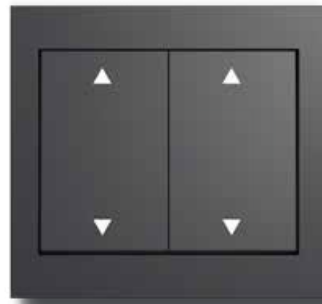
The natural way to shade

Awning, shutter and blind controls

In addition to variations of artificial light, modern electric installations provide many ways of enhancing the mood of a room with natural light – the simplest option is with shutters, blinds or awnings. They can be manually operated, time-controlled via a time switch or daylight-based via brightness sensors. An appropriate individual room temperature regulation rounds off the perfect indoor climate as required.

Mastering those daily ups and downs

The sun is out but you can't always enjoy it - especially if you have to concentrate on your work or a PowerPoint presentation. Berker by Hager shutter and blind control provides the necessary shade on demand: it raises and lowers motor-controlled shutters and blinds at the touch of a button or automatically via an integrated weekly time switch. Even entire storeys of buildings can be provided with shade from a central location.



Multi-pole push button for blinds in a antracite K.1 frame



Blind time switch in a polar white S.1 frame





When the time has come, there will be light With Hager time switches

In addition to special light requirements on sporadic occasions, every business has its own particular rhythm, which is mostly determined by its working hours. Time switches adjust the lighting control system precisely to the respective business's working day, thus providing the basis for more convenience, safety and efficiency. Time switches are suitable for shop windows and neon advertisements, for the exterior lighting of schools, public buildings and monuments or for periodic switching operations in industrial companies.



Good timing

For your business

Time switches enable not only the chronological control of indoor and outdoor lighting. They also time other facility management functions such as shutter control, heating management and the watering of grounds. And the best is: they don't mind working when no one else does – ideal for simulating presence during the annual work holidays!



Annual time switch EG293B

Technology on the pulse of the times

Hager has a wide range of state-of-the-art digital timing technology:

- Single-channel to four-channel time switches
- Weekly and annual time switches
- Astro time switches with stored dusk and dawn settings and automatic changeover to and from daylight saving time.

Programming is executed on the device itself or with the help of software on a computer. All programming phases, up to 56 or 300 depending on the device, are shown on the display in a clearly legible form. A key experience is when you encounter the special programming keys for saving, transferring and reading the switch programmes. Literally anyone is capable of setting a new time programme.



State-of-the-art: programming via the computer
 With the practical key adapter and the relevant computer software, the programming key can quickly and reliably be set to the required timeframe.



Multi-functional EMN005 stairwell time-lag switch

For every twist and turn: stairwell time-lag switches

For time-dependent lighting control in staircases we recommend Hager's compact stairwell time-lag switches, available in two versions:

- Multi-functional EMN005 stairwell time-lag switch

All devices operate almost silently, requiring only 100 mA of electricity when in stand-by with illuminated push-buttons. The multifunctional EMN005 switch has – in addition to the usual timer function (30 s to 10 min) – a long-term function (1 h) and a switch-off warning (40 s) whereby the lighting starts to flicker. This fulfils the current DIN 18015-2 standard for apartment buildings and guarantees more safety for every twist and turn of that staircase.



As the sun goes down the lights go on Thanks to twilight switches

Twilight switches considerably improve the energy balance of your lighting: the connected electric circuits are not activated until the sun sets. This enables your light management to be adjusted perfectly to the respective time of day and season. We recommend twilight switches for lighting in shop windows, streets, historical buildings and heavily frequented outdoor complexes and car parks.



Contemporary illumination

For clear-sighted planners

Twilight switches from Hager are your most reliable companion when the light starts to fade. A brightness sensor measures the light intensity within a preset timeframe. If it drops below the set threshold value, e.g. after sunset, the lights switch on automatically. As it gets lighter outside, e.g. after dawn, the lights are switched off again. To ensure that this does not happen during short-term fluctuations of light, the lighting is switched on or off with a delay of 30 s.

High performance: dual-channel twilight switches

Hager has a wide range of twilight switches. The new EEN100 have two different measuring ranges for brightness: 2 to 100 lux and 50 to 2000 lux. The threshold values are set separately via a control dial. An LED display indicates the respective mode.

For existing KNX systems, the single-channel KNX TXA025 twilight switch is the preferred choice. It covers a brightness range of 2 to 20,000 lux.

Light to enjoy: recessed or surface-mounted light-sensitive sensors

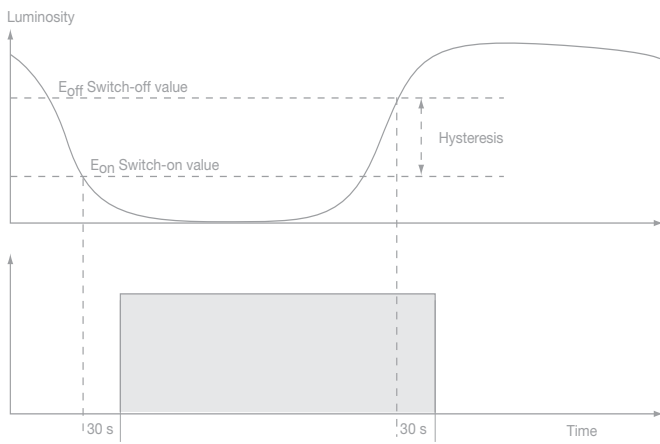
Depending on the place of installation, Hager's twilight switches can be combined with recessed or surface-mounted light-sensitive sensors for indoor or outdoor installation.



Light sensitive switch
EEN100



Surface-mounted
light-sensitive sensor
EEN003





A clever mix tebis KNX

Energy efficiency takes topmost priority among building operators. However not all members of staff are equally as responsible in how they use electricity at work: lights are left on, radiators are turned too high and windows are left open overnight. With intelligent KNX building automation, the building takes the initiative when employees forget. This not only increases the level of comfort and safety but saves up to 50% in total energy costs.



Technology to connect

tebis KNX from Hager connects up all electrical functions: from lighting and shutter control, heating, ventilation and air conditioning, intercom, locking and alarm systems and garden irrigation through to audio and video control or the management of individual electrical units. The respective KNX modules are installed in the Hager technology centre. Programming the KNX installation is done via Hager's KNX visualisation, while the display and operation are managed via the touch panel and multi-functional push-button sensor.





Daylight

Ideal

Artificial
light



Permanent light

For a comfortable work climate

KNX constant light management

In order to find your way through all that paperwork, you need the right working light! In rooms with tall windows that let in a lot of daylight, we recommend constant light management that harvests natural daylight: it ensures a consistent mix of natural daylight and artificial light to provide a permanent, constant level of light and a fatigue-free working atmosphere. When the sun shines, the artificial lighting is turned down or off and when the sky is cloudy or at the end of the day, the light turns back on again automatically.

In comparison with normal lighting, this saves up to 50% in energy costs – and valuable work time, as employees no longer have to regulate the light themselves.







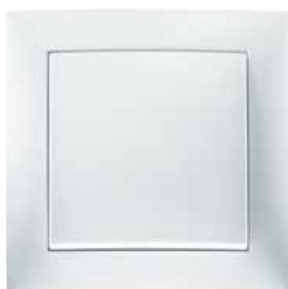
Turning light into art

Individual lighting solutions

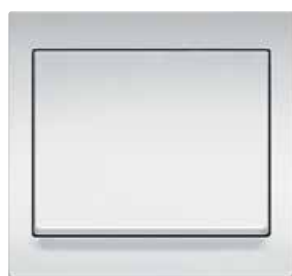
Light years of technical and aesthetic innovation have passed since flickering fluorescent tubes adorned the ceilings of offices in comparison to today's modern lighting architecture. In addition to ergonomic requirements, light design is an increasing priority – and something taken very seriously by the development department at Hager! That's why we enjoy developing individual solutions for our customers. You will find some examples of our designs on the next few pages.

Berker by Hager

Each project has its style



S.1



K.5



B.7



K.1



B.IQ



TS sensor



Touch Sensor R.1



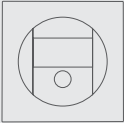
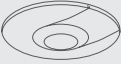
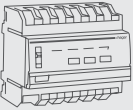
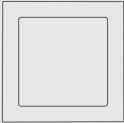

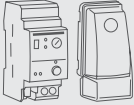


Crystal ball

All solutions

At a glance

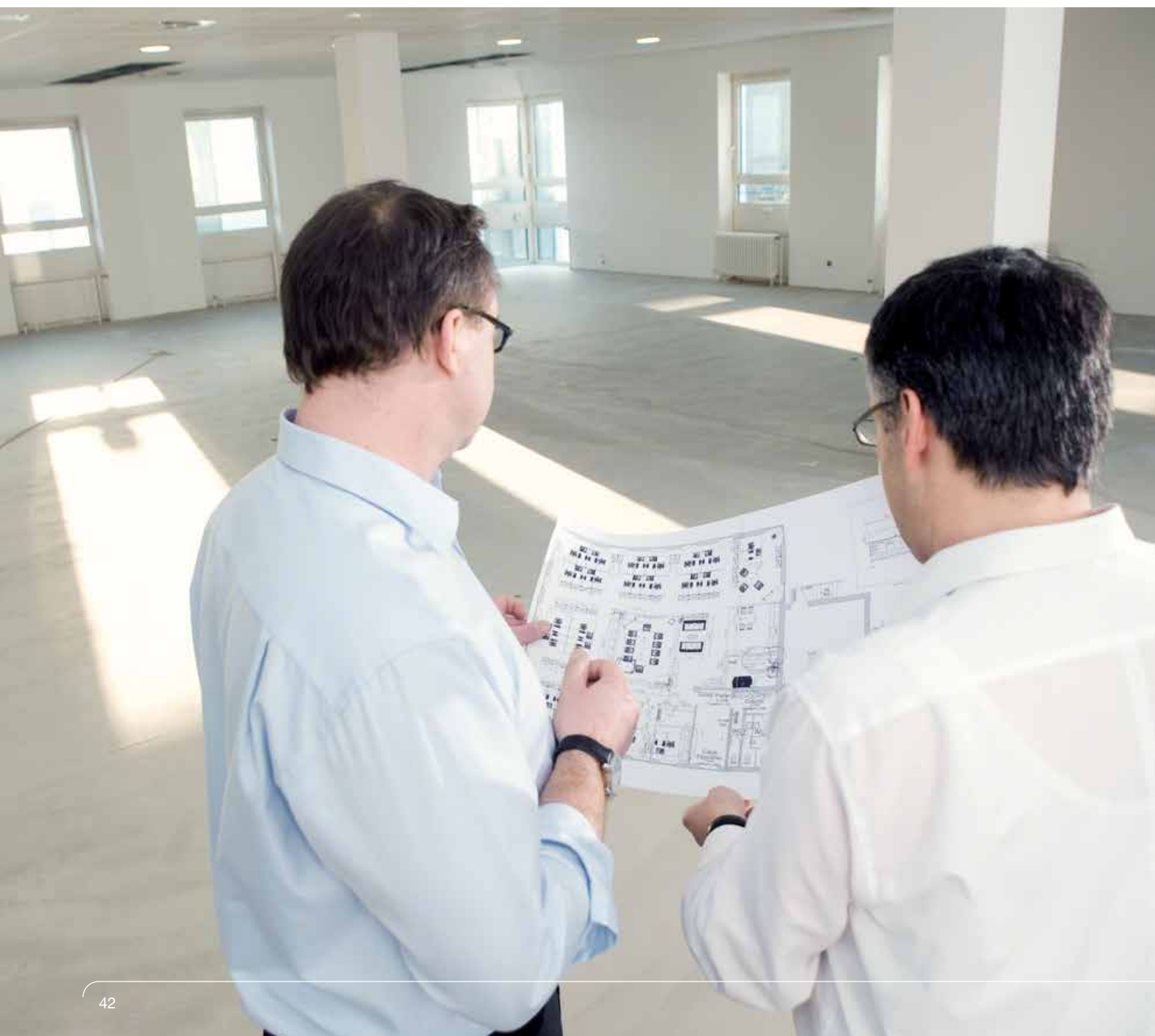
Lighting solution	Product types	
Outdoor motion detectors	 <p>Standard motion detectors</p> <ul style="list-style-type: none"> • 140°/200°/360°, IP55 (EE82x, EE83x, EE84x) 	 <p>Enhanced motion detectors</p> <ul style="list-style-type: none"> • 140°/220°/220°-360°, IP55 (EE85x, EE86x, EE87x)
Indoor motion detectors	 <p>360° motion detectors</p> <ul style="list-style-type: none"> • Flush mounted (EE805) 	 <p>360° motion detectors</p> <ul style="list-style-type: none"> • Surface mounted (EE804)
Presence detectors	 <p>Surface mounted presence detectors</p> <ul style="list-style-type: none"> • Single-channel (EE810) • Dual-channel (EE811) • With constant-light controller (EE812) 	 <p>Flush mounted presence detectors</p> <ul style="list-style-type: none"> • 360° (EE815) • 360° DALI-/DSI (EE816)
Dimmers	 <p>Universal remote-control dimmers</p> <ul style="list-style-type: none"> • 1000 W (EV100) • 1000 W, with display (EV102) • 500/100 W, LED/ESL (EVN002) • 500/100 W, LED/ESL Comfort (EVN004) 	 <p>Remote-control devices</p> <ul style="list-style-type: none"> • Standard (EV106) • With display (EV108)
Time switches	 <p>Digital time switches</p> <ul style="list-style-type: none"> • Single-channel (EG103x) • Dual-channel (EG203x) • Weekly time switch (EG403E) • Annual time switch (EGx93x) • Astro time switch (EE18x) • Programming key (EG00x) 	 <p>Analogue time switches</p> <ul style="list-style-type: none"> • Daily time switches (EH01x, EH11x, EH2xx) • Weekly time switches (EH1xx, EH2xx) • Compact time switches (EH7xx)
Twilight switches	 <p>Light sensitive switches</p> <ul style="list-style-type: none"> • with surface mounted cell (EEN100) • with flush mounted cell (EEN101) 	 <p>Surface-mounted twilight switches with integrated cell, IP55</p> <ul style="list-style-type: none"> • Standard (EE701) • With settings (EE702)
Shutter/blind controls	 <p>Group rocker push button</p> <ul style="list-style-type: none"> • R.3 polar white glossy: 5034 04 (mechanism), 1644 20 89 (rocker) and 1011 22 89 (frame) 	 <p>Blind time switch</p> <ul style="list-style-type: none"> • R1/R.3 polar white glossy: 8574 11 39 (blind time switch) 1011 2x 89 (frame)
tebis KNX	 <p>Modular devices</p> <ul style="list-style-type: none"> • Universal dimmer (TYA66xx) • KNX/DALI gateway (TYA670D) • Shade (TYA62x) • Time switches (TX025) 	



















		Recommended use	
	<p>LED Floodlight detectors</p> <ul style="list-style-type: none"> • 220-360°, IP55 (EE600) 	<ul style="list-style-type: none"> • Schools, sport and leisure centres, hotels, company buildings, apartment blocks, residential and nursing homes • 140°: entrances/driveways/backyards • 200°/220°: building facades • 220°-360°: local detection for creep zone protection 	
	<p>HF detector</p> <ul style="list-style-type: none"> • EE883 	 <p>Motion detector</p> <ul style="list-style-type: none"> • IR comfort: 8534 12 89 (cover) and 1011 64 24 (frame) • standard: 8534 11 89 (cover) and 1011 64 24 (frame) 	<ul style="list-style-type: none"> • Office and administration buildings • Hotels • Sport and leisure centres • Company and industrial plants, e.g. hallways, staircases, staff rooms, sanitary facilities / WCs
	<p>KNX flush mounted presence detectors</p> <ul style="list-style-type: none"> • Single-channel (TCC510S) • With switching output (TCC520E) • With DALI output (TCC521E) • Multi-channel (TCC530E) 		<ul style="list-style-type: none"> • Schools and office buildings • Doctors' surgeries and physiotherapy centres, e.g. corridors, waiting areas, conference rooms, treatment rooms, sanitary facilities / WCs
	<p>Universal dimmers for tebis KNX</p> <ul style="list-style-type: none"> • 300 W (TYA661A) • 600 W (TYA661B) • 3x 300 W to max. 1x 900 W (TYA663A) • 1000 W (TXA215) • KNX/DALI gateway (TYA670D) 	 <p>Universal touch dimmer 1gang</p> <ul style="list-style-type: none"> • Q.3 anthracite: 8542 12 00 (mechanism), 8514 11 26 (button) and 1011 60 96 (frame) 	<ul style="list-style-type: none"> • Cinemas and theatres • Museums and exhibition rooms • Restaurants and leisure centres • Conference and sales areas • Sport centres and gymnasiums
	<p>Stairwell time-delay switches</p> <ul style="list-style-type: none"> • Multi-function (EMN005) • With return delay (EPS450B) 		<ul style="list-style-type: none"> • Management of indoor and outdoor lighting: schools, sport and leisure centres, streets, driveways, car parks, shop windows, neon advertisements, historical buildings, monuments • Management of further building automation: e.g. heating, ventilation, shutters, garden irrigation, household devices
	<p>KNX twilight switches</p> <ul style="list-style-type: none"> • With sensor (TXA025) 		<ul style="list-style-type: none"> • Management of outdoor lighting: schools, sport and leisure centres, streets, driveways, car parks, historic buildings, monuments • Management of indoor lighting: shop windows, neon advertisements
			<ul style="list-style-type: none"> • Time and/or brightness-dependent lighting control: office and administration buildings, school and leisure facilities, residential and nursing homes
			<ul style="list-style-type: none"> • KNX-based networks and control of all building automation: e.g. lighting, shutters/blinds, indoor temperature control, alarm systems • Intelligent load management, smart metering and submetering through energy meters, visualisation and communication tools • Retrofitting with wireless solutions

Selection guide

Choose your components










For each case, there is an adapted solution. In the following pages are listed all the products from the Hager offer that will allow to manage your lighting in the smarter way. Have a look at the overview and just do your own selection according to the products characteristics and to your needs !










Motion detectors					
		Standard		IR Comfort	
		1.1 m	2.2 m	1.1 m	2.2 m
S.1	<p>- cover plate: 8534 11 82 (white glossy), 8534 11 89 (polarwhite glossy), 8534 11 88 (polarwhite matt), 8534 11 85 (anthracite matt), 8534 11 83 (alu matt lacquered)</p>  	<p>- cover plate: 8534 21 82 (white glossy), 8534 21 89 (polarwhite glossy), 8534 21 88 (polarwhite matt), 8534 21 85 (anthracite matt), 8534 21 83 (alu matt lacquered)</p>  	<p>- cover plate: 8534 12 82 (white glossy), 8534 12 89 (polarwhite glossy), 8534 12 88 (polarwhite matt), 8534 12 85 (anthracite matt), 8534 12 83 (alu matt lacquered)</p>  	<p>- cover plate: 8534 22 82 (white glossy), 8534 22 89 (polarwhite glossy), 8534 22 88 (polarwhite matt), 8534 22 85 (anthracite matt), 8534 22 83 (alu matt lacquered)</p>  	
B.3	<p>- frame choose reference in matching color and design</p> 	<p>- frame choose reference in matching color and design</p>	<p>- frame choose reference in matching color and design</p>	<p>- frame choose reference in matching color and design</p>	
B.7					
K.1/K.5	<p>- cover plate: 8534 11 79 (polarwhite glossy), 8534 11 75 (anthracite matt lacquered), 8534 11 77 (alu matt lacquered), 8534 11 73 (stainless steel matt lacquered)</p>   <p>- frame choose reference in matching color and design</p>	<p>- cover plate: 8534 21 79 (polarwhite glossy), 8534 21 75 (anthracite matt lacquered), 8534 21 77 (alu matt lacquered), 8534 21 73 (stainless steel matt lacquered)</p>   <p>- frame choose reference in matching color and design</p>	<p>- cover plate: 8534 12 79 (polarwhite glossy), 8534 12 75 (anthracite matt lacquered), 8534 12 77 (alu matt lacquered), 8534 12 73 (stainless steel matt lacquered)</p>   <p>- frame choose reference in matching color and design</p>	<p>- cover plate: 8534 22 79 (polarwhite glossy), 8534 22 75 (anthracite matt lacquered), 8534 22 77 (alu matt lacquered), 8534 22 73 (stainless steel matt lacquered)</p>   <p>- frame choose reference in matching color and design</p>	

Selection guide


Hager lighting management

Motion detectors							
Wall mounted						Ceiling	
IP55 Standard			IP55 Enhanced			Flush	Surface
140°	200°	360°	140°	220°	220/360°	360°	360°
EE820 white	EE830 white	EE840 white	EE850 white	EE860 white	EE870 white	EE805 white	EE804 white
							
							EE883 white IP54
							

Accessories			
Ceiling mounting accessories		Remote control	
EE827 white	EE828 anthracite	EE806 installer and user	
			
Corner mounting accessories		Corner mounting accessories	
EE825 white	EE826 anthracite	EE855 white	EE856 anthracite
			















Occupancy detectors		Light with PIR	
Ceiling		Wall mounted with LED	Wall mounted with halogen light
Flush	Half flush	Floodlight 60 W	Bulkhead 60 W
360°	360°	220/360°	110°
EE815 1 channel 	EE810 1 channel 	EE600 white 	52045 white 
	EE811 2 channels 		
EE816 DALI/DSI 	EE812 1/10 V 		
Remote control EE807 installer 	Remote control EE808 user 		

⁽¹⁾ Or 2 channels (300 W + 600 W) or 1 channel (900 W)

 Recommended for commercial applications




















Selection guide









Analogue time switch

Analogue time switch								
230 V						6 to 24 V		
1 channel						1 channel		
daily			weekly				daily	weekly
1 module	3 modules	72x72	1 module	3 modules	5 modules	72x72	3 modules	72x72
EH010 without reserve 	EH110 without reserve 	EH710 without reserve 				EH770 without reserve 	EH010A without reserve 	
EH011 reserve 200 h 	EH111 reserve 200 h 	EH711 reserve 200 h 	EH071 reserve 200 h 	EH171 reserve 200 h 	EH191 reserve 200 h 	EH771 reserve 200 h 	EH111A reserve 200 h 	EH171A reserve 200 h 


Digital time switch							
230 V							12 to 24V
1 channel		2 channels		4 channels		1 channel	
daily	weekly		weekly	yearly	weekly	yearly	weekly
1 module	1 module	2 modules	2 modules	4 modules	4 modules	4 modules	2 modules
EG010 ⁽¹⁾ 5 prog.	EG072 ⁽¹⁾ 10 prog.	EG103B ⁽²⁾ standard	EG203B ⁽²⁾ standard	EG293B ⁽²⁾ standard			
	EG071 ⁽¹⁾ free prog.	EG103E enhanced	EG203E enhanced			EG403E enhanced	EG493E enhanced
		EG103D radio					EG103V TBT
Accessories							
	Clock key EG004	Range module EG006	Interface and software with USB EG003				
	Programming key EG005	Programming key EG007	Programming key EG005				
	DCF radio antenna EG001 (only for EG103D and TXA023)	DCF radio antenna EG001					

- ⁽¹⁾ No key
- ⁽²⁾ Key optional
- Recommended for commercial applications

Twilight switch					Astro switch		Time lag switch
Surface 230 V	Modular 230 V				Modular 230 V		Modular
1 channel	1 channel	2 channels	1 channel		1 channel	2 channels	
non prog.	non programmable		daily	weekly	weekly		
integr. cell	with cell	optional cell	with cell	with cell			
EE701 without settings 	EEN100 surface cell 	EE200 	EE110 analogue 	EE171 digital 	EE180 	EE181 	EMN001 standard 
EE702 with settings 	EEN101 flush cell 	EE202 					EMN005 
		TXA025 TXA026 tebis  					
Accessories							
	Cells ref. EEN002  ref. EEN003 	Cells ref. EE002  ref. EE003 			interface and software with USB EG003G 		

Dimmer				
Modular				
universal 300 W + CFL, LED	universal 500 W + CFL, LED	universal 600 W + CFL, LED	universal 1000 W	1/10 V
EVN011 	EVN002 		EV100 analogue 	EV106 digital 
EVN012 comfort 	EVN004 comfort 		EV102 w/ display 	EV108 w/ display 

⁽¹⁾ Or 2 channels (300 W + 600 W) or 1 channel (900 W)

 Recommended for commercial applications



EU Directive 2010/31/EU

EU Regulation No. 874/2012

European Standard EN 15232

Energy Conservation Act (EnEG)

Ecodesign Regulation No. 245/2009

European Energy Efficiency Directive

European Energy Services Directive

Hager brings light into the darkness

Regulations and standards

The European Union has set itself some challenging energy targets. Buildings in Europe should gradually change over to a sustainable, climate-friendly and safe supply of energy. And lighting control plays an important role here. Hager can help you to navigate through the jungle of European standards and contributes to providing standard-compliant lighting for your specific projects with its energy-efficient solutions.

Building a European house

So if you want to build a European house you have to make sure that it is supplied with sufficient energy and “kept clean” in an environmentally friendly manner. In 2007 the European Union laid the relevant foundations with its plan of action entitled “An Energy Policy for Europe”. It included an optimistic time schedule: the objective of the action plan is to increase energy efficiency and develop renewable energy technologies so as to reduce European primary energy consumption and carbon emissions by 20% by 2020. In order to achieve these ambitious goals, the European Union has issued regulations and directives. These are being adapted in Germany in the form of laws and regulations and implemented in the national energy supply market.

EU regulations

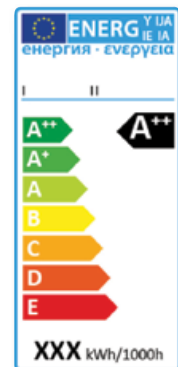
EU directives

National laws

National regulations

Standards

Seals of quality



European-wide energy consumption labelling of lamps and lighting for commercial functional buildings (in accordance with EU Regulation No. 874/2012)

Setting enlightening standards

Overriding directives:

- EU Directive 2002/91/EC: Energy performance certificates for buildings, implemented in Germany by the Energy Conservation Act (EnEG) in 2009
- EU Directive 2006/32/EC: Promotion of energy efficiency and energy services
- EU-EDL-RL: European Energy Services Directive, implemented in Germany by the Energy Services Act (EDL-G)
- EU-EnEff-RL: European Energy Efficiency Directive
- EU Directive 2010/31/EC: Energy Performance of Buildings
- DIN EN 15232: Impact of Building Automation, Controls and Building Management

Regulations and standards pertaining to lighting:

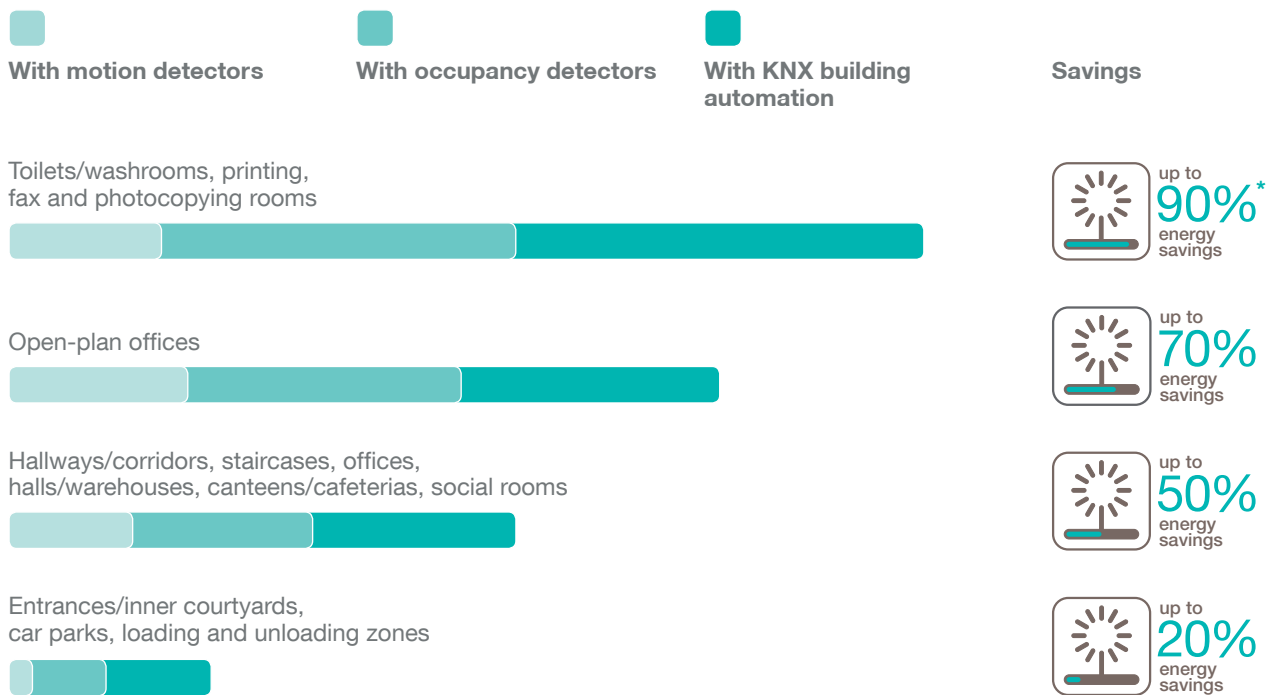
- EU Regulation No. 874/2012: Labelling obligation for lamps and lighting in functional buildings according to their energy efficiency grade
- Ecodesign Regulation (EC) No. 245/2009: Ecodesign of commercial lighting products – fluorescent lamps without integrated ballast, high intensity discharge lamps, ballasts and luminaires
- Ecodesign Regulation (EU) No. 1194/2012: Ecodesign of lamps with directional light, LED lamps and related devices
- Ecodesign Regulation (EC) No. 244/2009: Ecodesign of household lamps with non-directional light
- DIN EN 15193:2008: Energy requirements for lighting in buildings
- DIN EN 50285:1999: Energy efficiency of electric lamps for household use
- DIN EN 12665:2011: Basic terms and criteria for specifying lighting requirements

Saving costs – big scale

With technology from Hager...

In cost-conscious facility management the rule of thumb is: think ahead rather than pay later! By planning ahead well, your customers can save money on kilowatt hours of electricity year for year and help the environment at the same time. The more tuned your lighting control is to your needs, the lower the consumption of energy!

Potential savings of energy and reduction in carbon emissions

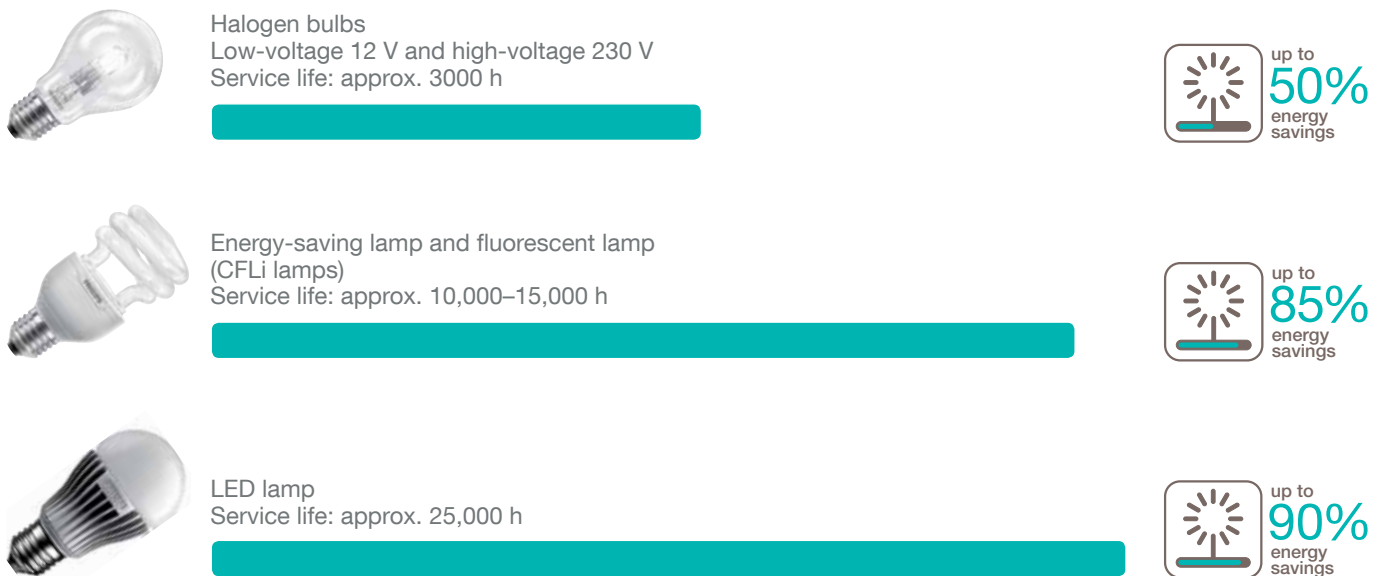


...and energy-saving lamps

133 years have passed since Thomas Alva Edison invented the bulb, which has now gone out of service. The reason: it produces beautiful light, but darkens our energy balance. That is why the European Union decided that as of 1 September 2009 incandescent light bulbs would be gradually discontinued**.

As of 1 September 2012, throughout the European Union incandescent light bulbs are not allowed to be sold anymore. The aim is to save up to 15 million tonnes of CO2 by converting to energy-saving lamps. At the same time, building operators will save costs – through higher light yields, longer service lives and lower electricity costs.

Savings potential in comparison to conventional bulbs



* All figures are approximate values. Depending on structural conditions and usage patterns, actual figures can vary. Potential savings of up to 90% can be achieved particularly if, for example, occupants forget to switch off the light over a longer period, e.g. when on holiday.

** The phase-out will take place in four stages and is regulated by EU Directive No. 244/2009 "Ecodesign requirements for non-directional household lamps".

E3 – the Hager Group's sustainability programme

Hager belongs to the Hager Group, an independent family-owned and run company which looks back on over 50 years of company history. The Hager Group relies on sustainability worldwide. We have translated our understanding of sustainability into a concrete programme: E3 connects people, the environment and efficiency in a unique manner. Each "E" stands for a concrete plan of action to which the Hager Group has committed itself voluntarily. In so doing we ensure that each member of staff feels at home, we reduce our ecological footprint and accelerate our technological process at the same time. More information about E3 can be found on www.hagergroup.net/sustainability



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