ISSUE 4 | 2020

ESYWORLD

NEWS FROM THE WORLD OF AUTOMATION AND LIGHTING

LEARNING WITH LIGHT CHANNELS

HOW SCHOOLS BENEFIT FROM OPTIMAL LIGHTING CONDITIONS

EXCITING TIMES

RELUX-CEO MARKUS HEGI ON CHALLENGES AND CHANGES IN THE ERA OF DIGITALISATION

LET THERE BE LIGHT

HOW THE NEW ESYLUX DEFENSOR SERIES INCREASES SAFETY THROUGHOUT THE BUILDING

WELCOME

Dear readers,

Mauritius, Finland and Singapore are very far away from each other, could hardly be more different culturally and yet they have one thing in common: In a difficult phase of their history, they began to promote the education of the population in a targeted manner – and in this way put their countries on the road to success.

Today we know that not only diligent students, good teachers and suitable curricula support this kind of development, but also the right lighting – in particular, fully automated human centric lighting, implemented in an energy-efficient manner by lighting systems with ESYLUX Light Control. How easy is it to configure them for classrooms? You can read about that and more in the current issue of ESYWORLD!

For your enjoyment

Mareks Peters

Chairman and CEO, ESYLUX

TOPICS

LEARNING WITH LIGHT CHANNELS

HOW SCHOOLS BENEFIT FROM THE BEST LIGHTING AND INTELLIGENT CONTROL

LIGHTING SYSTEMS WITH ESYLUX LIGHT CONTROL AND INTEGRATED SYMBILOGIC TECHNOLOGY

- Simple plug-and-play installation
- Ready for immediate use
- Energy-efficient human centric lighting for more vitality, concentration and health
- Cost-effective lighting solution for standard-compliant and future-proof modernisation

SYMBI LOGIC™

EDUCATIONAL SUCCESS VIA PLUG-AND-PLAY

They implement energy-efficient human centric lighting, feature plug-and-play installation and are immediately ready for operation with default settings. However, lighting systems with ESYLUX Light Control ELC also allow individual configurations that further improve lighting conditions and energy efficiency – by using light channels in school classrooms, for instance.

An increase in the reading speed of pupils of more than 30 %, a reduction in their error rate of 45 % and, while we're at it, a 76 % drop in restlessness. Many a teacher may dream of this. Not least at secondary schools, where learning success becomes more and more important as graduation approaches. But despite there being no teaching method that can make that kind of difference, these figures are not just wishful thinking.

OUTCOME OF A STUDY AT HAMBURG UKE: DYNAMIC LIGHTING IMPROVES LEARNING CONDITIONS

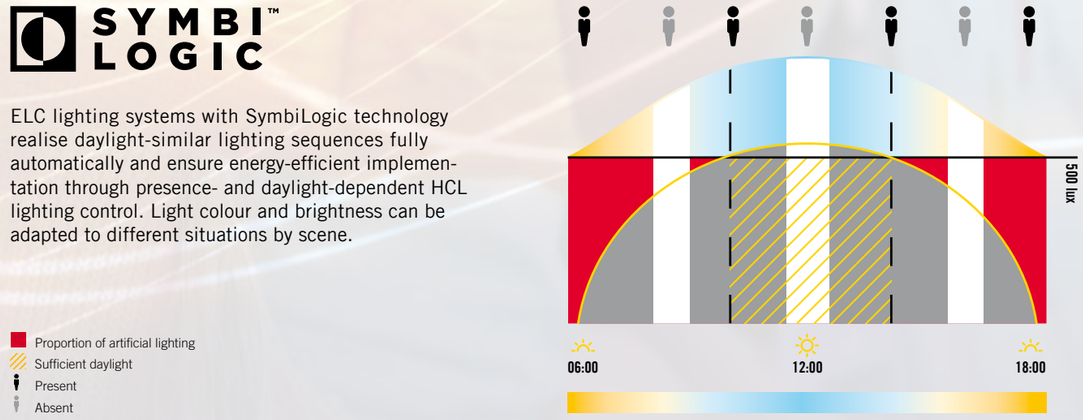
These are the actual results of a study experiment at the University Medical Center Hamburg-Eppendorf (UKE). 166 students aged between 8 and 16 years and 18 teachers took part in the study, which lasted a good twelve months. The reason for the positive effects was the right lighting. More precisely: dynamic lighting similar to daylight. Especially bright, cold white lighting increased the reading speed of the students and improved their ability to concentrate. Darker, warm white lighting reduced restlessness at other times.

We are talking – of course – about human centric lighting (HCL), which can now be brought into the classroom very economically, using lighting systems with ESYLUX Light Control and SymbiLogic technology. For one, this is because of the simple plug-and-play installation, and for another because of the presence- and daylight-dependent HCL lighting control. Whereas the last ESYWORLD was all about scaling and networking systems in offices, this time the aim is to show useful configurations in the heart of the teaching environment: the classroom. ▶

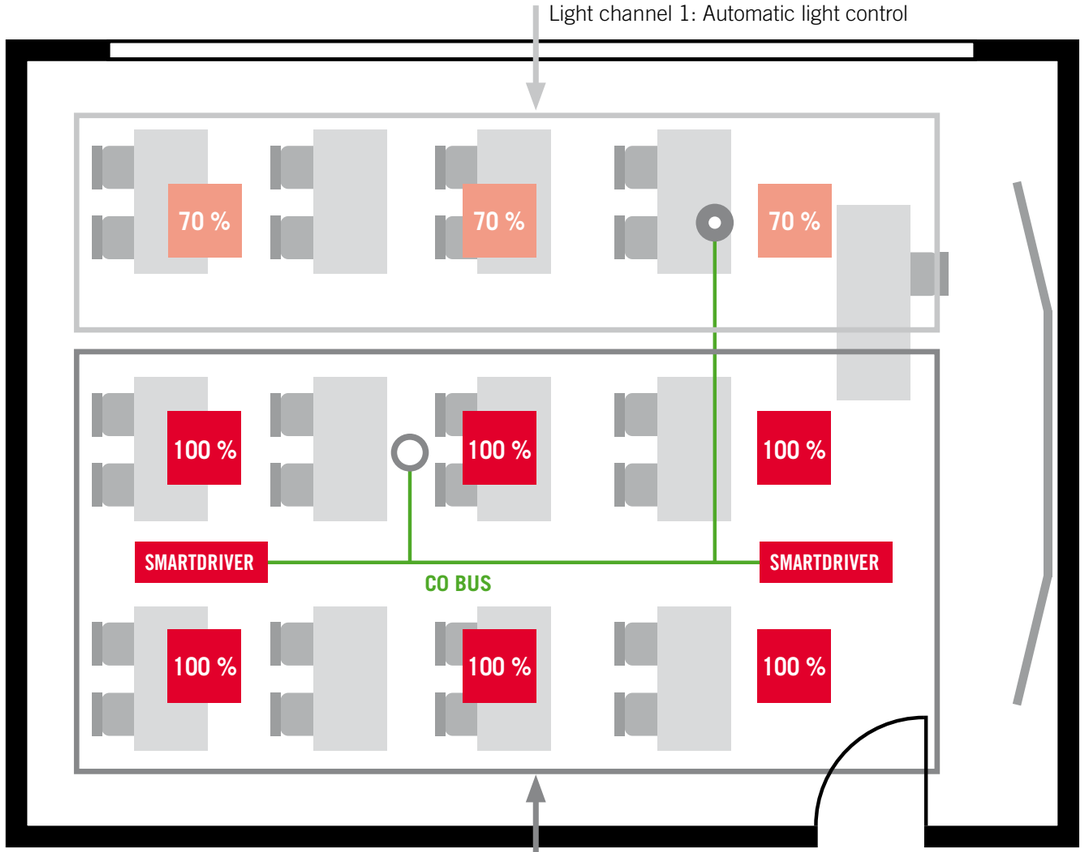
The optimum lighting for successful learning in classrooms is a healthy mixture of natural daylight and artificial lighting similar to daylight. ▶

SYMBI LOGIC™

ELC lighting systems with SymbiLogic technology realise daylight-similar lighting sequences fully automatically and ensure energy-efficient implementation through presence- and daylight-dependent HCL lighting control. Light colour and brightness can be adapted to different situations by scene.



Proportion of artificial lighting
Sufficient daylight
Present
Absent



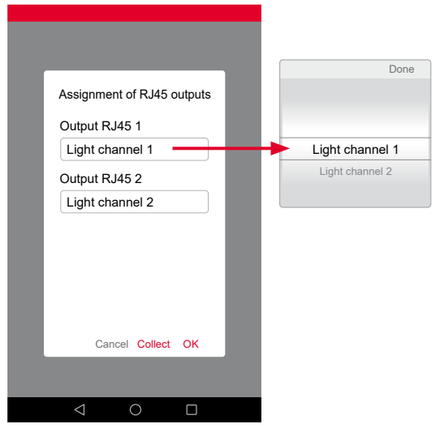
ELC lights output of ELC lights in %
ELC presence detector 24 m
ELC presence detector 8 m
ELC control unit SMARTDRIVER
Chair
Desk
Whiteboard

Configuration A: In this example, the light channels serve to optimise lighting conditions and energy efficiency through offset operation. As soon as light channel 1 falls below an illumination level of 70 % due to sufficient daylight, dimming of light channel 2 begins. ▲

LIGHT CHANNELS AS THE BASIS FOR INDIVIDUAL CONFIGURATIONS

The light channels of the systems form the basis for individual configurations. Two of these are available in versions with integrated SymbiLogic, and four of those without SymbiLogic. All the lights of one light channel are controlled identically, i.e. in broadcast mode. An example of how the channels can be used in a classroom is shown in configuration A. Here, the responsible persons decided on uniform lighting control in the room. Two ELC presence detectors were used, whereby the inside one took over light measurement, as well as two ELC smart drivers, connected via CO.

In order to further optimise lighting conditions and energy efficiency despite the overall uniform control, lights near the windows and those far away were assigned to different light channels. The lights at the windows are assigned to light channel 1 and are normally controlled according to the target value set. Light channel 2, on the other hand, works with a 30 % offset to light channel 1. This means that the lights further in are only dimmed when the illuminance of the lights at the windows has already dropped to 70 %.



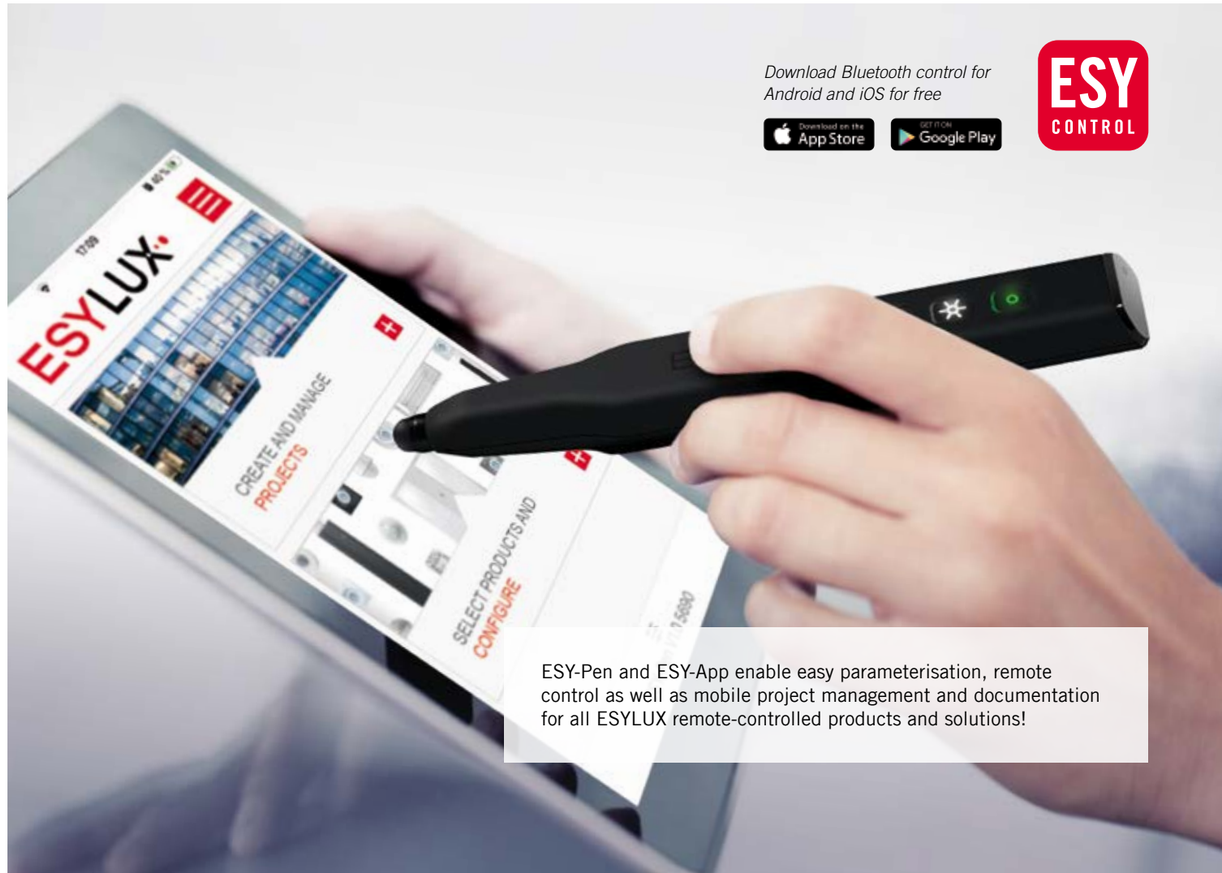
With default settings, the RJ45 outputs for the main lighting are already assigned to the available light channels in a standard arrangement. This allows the assignment of lights to a specific light channel to be carried out often simply by plug-and-play. With the ESY-App, the mapping can also be changed at any time. ▲

The advantage is obvious: During the day, the inner room zone needs more artificial lighting than the zone by the windows. Were the dimming process to start at the same time for both rows of lights, it would only start when the inner room zone received enough daylight. Because of the separate assignment to light channel 1, however, the dimming of the lights by the windows can start much earlier, with light channel 2 following later. ESYLUX customers are already familiar with this energy-efficient concept from the DUO DALI presence detectors from the COMPACT series.

PLUG-AND-PLAY OR EASY RE-MAPPING VIA ESY-APP

Assigning the lights to the two light channels was also an efficient process: It was simply carried out via plug-and-play. This works because the light channels are already assigned to the RJ45 outputs for the main lighting in a standard arrangement ex works. This means that the channel assignment is often done via the plug-and-play connection alone. In this example, only the desired offset value had to be set individually in the ESY-App.

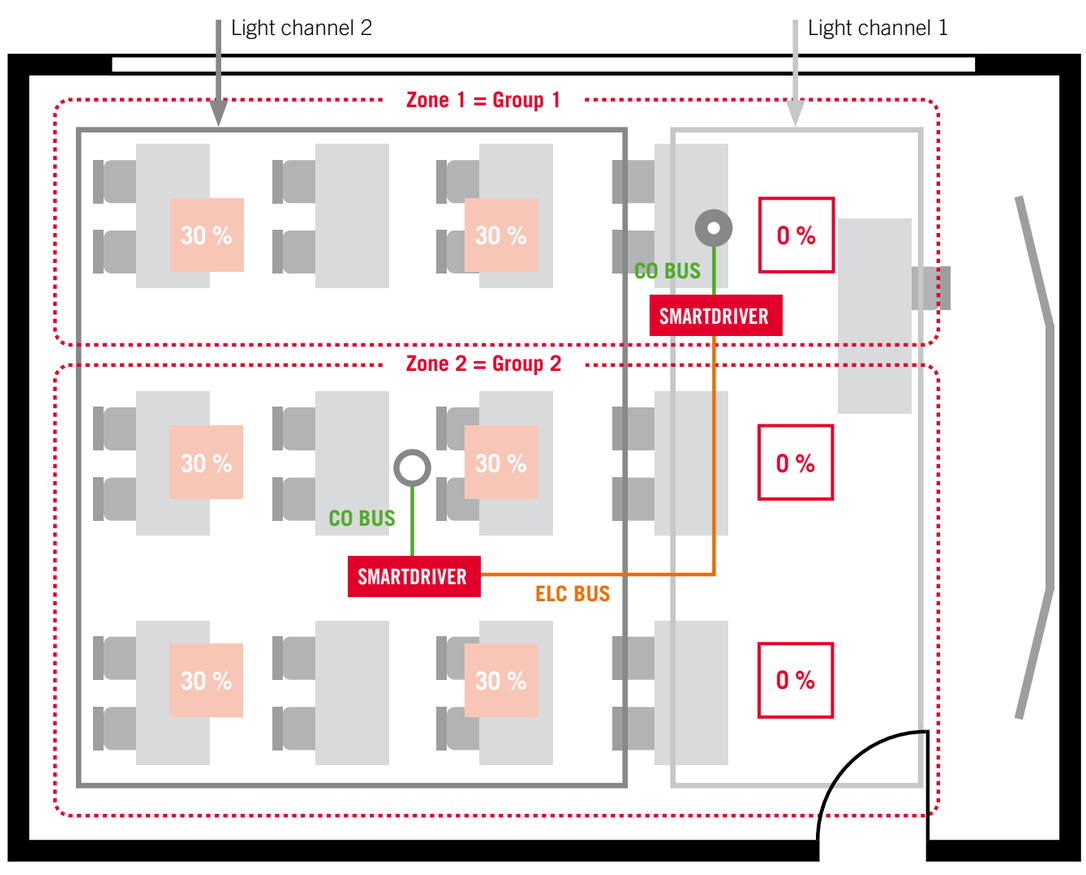
Where the channel assignment is to deviate from the default setting, the ESY-App also enables a re-mapping that is as easy as it is flexible. The illustration on the left shows the appropriate configuration interface for this purpose. Incidentally, if there are several similar classrooms with the same requirements in one school building, a configuration like this only needs to be carried out once in the app: It can easily be cloned for the other rooms. As well as this, parameterisation can be done conveniently in your own office and only transferred to the installed lighting system later on the construction site via the ESY-Pen. ▶



CONNECTION VIA ELC BUS FOR GROUPS WITH INDIVIDUAL LIGHTING CONTROL

But now, back to the classroom. Anyone who read the last issue of ESYWORLD knows that there is an even better alternative to the example just presented. If the two control units are connected via the ELC bus instead of via CO, individual lighting control can be implemented in both room zones. Then an offset is no longer needed: Each of the two groups of lights created in this way ensures optimal lighting conditions automatically.

Configuration B shows how this is implemented. Each control unit now forms its own lighting group with the lights connected to it plus a presence detector. Each presence detector measures the light in its zone to enable the individual control of the respective group. Another advantage of this division: The light channels that were previously used for better daylight utilisation via offset are now available for other configuration options!



◀ Configuration B: Light channels can also be used for manual override by scene. In the example, the lights of light channel 1, in the front part of the room, are completely switched off during a beamer presentation, while the lights of light channel 2 are dimmed to 30 % illuminance.

ELC Lights output of ELC lights in %
ELC presence detector 24 m
ELC presence detector 8 m
ELC control unit SMARTDRIVER
Chair
Desk
Whiteboard

APPLICATION-ORIENTED SCENES FOR INDIVIDUAL LIGHTING

Lighting channels are also the starting point for the design of individual scenes that allow the automation in an application to be overridden as required. In a classroom, for example, it would be useful in the case of a beamer presentation to be able to override the lighting in the front area of the room differently to that in the rear area. With one and the same scene, the lighting in the front area of the room where the screen is located could be switched off completely, and the lighting in the back area of the room dimmed by a certain percentage.

In order to realise exactly this, in Configuration B the lights in the front area of the room were assigned to light channel 1 via plug-and-play and the lights in the rear area to light channel 2. This means they can be overridden together, even though they belong to different ELC bus groups. Subsequently, only the corresponding scene with the different parameters needs to be created in the scene editor of the ESY-App.

The configurations presented here show that, with ELC lighting systems, plug-and-play and individual configuration often go hand in hand. In other applications, further configurations are conceivable. As an alternative to the fully automatic SymbiLogic process, the light colour and illuminance in the classroom can also be changed in a targeted manner by scene. And whiteboard lighting can also be integrated into the system via a DALI actuator and switched by scene. If you forget to switch it off – you guessed it – the lighting system does it automatically. ■

Increasing attention and concentration as well as reducing restlessness are just some of the positive effects that can be achieved by changing the colour and brightness of the lighting. Daylight-like lighting indoors also increases motivation and promotes healthy sleep! For more detailed information on the functions of ELC lighting systems, please visit the Media Centre on the ESYLUX website or go to: www.esylux.com/esylux-light-control

EXCITING TIMES

RELUX-CEO MARKUS HEGI ON CHALLENGES AND CHANGES IN THE ERA OF DIGITALIZATION

Nowadays, there are few industries that can do without specialised software, the manufacturers of which are therefore often among the key players in entire economic sectors. In the sensor and lighting industry, one example is the Relux planning software. CEO Markus Hegi talks about the changes, challenges and perspectives in his work.

He was a site manager for electrical and security systems, managing director of an electrical installation company and a long-standing department and project manager in the international lighting industry – **Markus Hegi**, an engineer with a degree cum laude, can justifiably claim to know his industry from every angle.

For more than 20 years now, he, together with his team, has steered the fate of the Relux lighting and sensor planning software and has also been involved on a part-time basis in his favourite topics: As a lecturer at universities and vocational schools, he inspires young people to get involved in lighting, electrical and measurement technology.

Mr. Hegi, when was the last time you planned your lighting?

Not that long ago. About three weeks ago.

So you actually still do it yourself?

I do it every now and then. Not least to try out the functions of the software. Even though I no longer do it every day, of course, I want to be there and feel for myself: Is it easy? Is the handling OK? Do I find it pleasant from the user's point of view?

And when did you carry out your very first lighting plan?

It must have been 1988/89 – before Relux in any case. A lot had to be done manually. C# calculator, type it in, length, width, then select the LDC and so on. It was all harder work back then. Done either with a DOS program or by hand. And there weren't many people who could do that.

»TIME-TO-MARKET IS THE BE-ALL AND END-ALL FOR SOFTWARE.«

In the meantime, that has changed radically. We live in the age of digitalisation. What are the biggest challenges in software development today?

One of the biggest challenges are the disruptive things that are happening globally in the market. For example, the Internet of Things. The industry itself is not sure where the journey is heading and at what speed. They always need a head start of several years. Time-to-market is the be-all and end-all for software. If we're dragging two or three years behind like a lame duck, but the market needs it now because new technologies would make it possible, then the goal has not been achieved. They need to have a flair for knowing where the market is heading and where new needs are emerging – always be two or three steps ahead in planning and also in implementation. ▶

Relux has earned its reputation not least through numerous major international projects. The lighting of Tower Bridge in London was also planned using Swiss software.

◀ The timing of a beautifully lit outdoor shot also needs to be well planned: RELUX main building near Basel.

»IF WE CAN REALLY CONCENTRATE ON JUST A FEW THINGS, THEN THE QUALITY WILL ALSO BE BETTER.«

As far as variety and the wealth of variants are concerned, you as a software manufacturer are certainly also troubled by the large number of file formats.

That's why we've now turned the tables. Together with other software manufacturers, we're defining a new, uniform file format for the industry. This should give the industry a breather when it comes to delivering data in a wide variety of formats. The effort demanded of the industry today when it comes to the preparation of commercial and product-related data is enormous. This can quickly bring a company to the edge of its capabilities if it's not very well organised.

What does the new format provide?

It will be a transparent, public data format for the sensor and lighting industry, covering needs reaching from the European Product Database to BIM. It will contain much more comprehensive information than the commonly used IES and LDT formats. I'm also expecting there to be a gain in quality. If I as a manufacturer can concentrate on a few standards that are constantly evolving in line with market requirements, then that will give me peace of mind. This is something everyone is familiar with. If we can really concentrate on just a few things, then the quality will be better. ▶

There are also constant changes in standards, which are an central accompanying factor in their work. How do you manage to keep up to date?

When the company started up, it was actually difficult to find out about standards at all, because you didn't find out anything until the draft. But that is no longer the case today. In Europe, people know each other and talk about it. But if someone comes along and says without notice that this or that standard is going to be launched within a few months, it can mean that we are a year and a half or two years too late.

But the worst thing when it comes to standards is when they can be interpreted in various ways. It's okay if a standard only covers part of a physical truth, because maybe you just can't do any better or the cost-benefit ratios are so far apart, but then just write it down clearly: Yes, here are the limits.

Can you give an example?

Take street lighting. Street lighting is calculated in luminance values for certain street classes. This can be simulated and can also be measured on site. However, depending on the quarry from which the stones for the asphalt come, the asphalt will be slightly different from the average reflection tables used in the standard. There's no way to change this. So, if you want to be certain that you're adhering to the values as described in the standard exactly, then absurdly enough there ought to be only one stone supplier for asphalt in Europe. You can see from this example, of which there are many: Standards have their limits.

Perhaps a second example to illustrate how problematic different interpretations of a standard can be. This was about glare evaluation according to UGR in indoor areas. The standard for this allowed two different ways of calculating the background luminance. The result was that the simulations came up with different results and the industry justifiably asked the question: So, which one applies? Who are we supposed to believe? We then, via the shortest official channels, agreed on a uniform calculation method together with our competitors in the market. But if that were not possible, such a standard would be counter productive.

Putting fast cars in the right light: Relux planning project on the Formula 1 race track in Abu Dhabi.

RELUX®
light simulation tools

The leading manufacturers of presence and motion detectors in the SensNorm association also strive for standardisation. Relux itself is one of the founding members. What is your contribution?

The simulation of sensor measurement data in programs. It is, of course, important to ensure that the results are consistent with the specified technical data. That's why we made every effort to get the manufacturers around the same table, so that we could define a uniform measurement and test methodology for the industry with the help of SensNorm.

Relux was the initiator?

Yes, we were the main initiator. We said hey, we have to get together, even if we are competitors. We have to agree on how we measure. It's not possible to do such a big job alone. It was really a huge delight to see how the companies were able to jump over their shadows and put something like this together in just a few years. That is a really great achievement.

»PROPER BIM PLANNING MEANS MORE TO ME THAN JUST DRAGGING A STUPID 3D OBJECT INTO THE BUILDING WITHOUT ANY TECHNICAL DATA.«

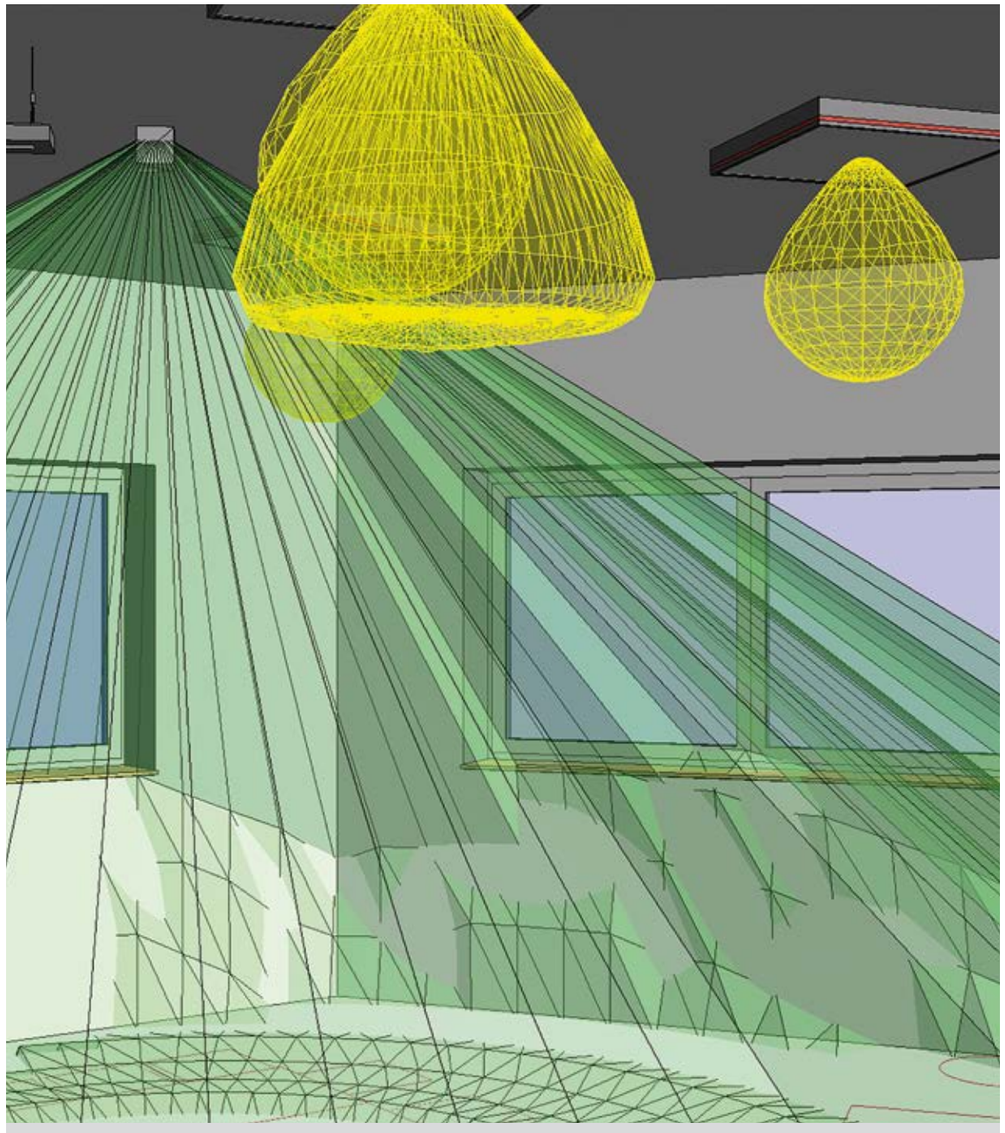
SensNorm is headquartered in Bern, where the first test laboratory that will work according to the new standards for presence and motion detectors is currently being built. Relux is also located in Switzerland. Are the Alps a particularly good breeding ground for building services engineering?

Well, I worked for a lighting company for a long time. When the first electronic operating devices came onto the market, Switzerland was used by the major brands as a test market. And this is still happening today. The country is small enough, and the people in Switzerland are quite the technophiles.

But the fact that the new laboratory is located in Switzerland is a coincidence. It only depended on which institution was willing to take up the challenge and set up a neutral measurement laboratory. And that was Peter Blattner, President of the International Commission on Illumination CIE and head of the optics laboratory at METAS, the Swiss metrology institute. We found it to be a good thing, because the company is an independent state enterprise, i.e. neither a lighting nor a sensor manufacturer. I hope that the industry will benefit from this independence.

Sensor and lighting data are also used in planning with building information modelling, with BIM. How does this influence your work?

A great deal. It is becoming an increasingly integral part of the construction industry, and we have been convinced. We also believe that people involved in BIM projects want to work with native data and don't want to accept any loss of information. That is why we have developed an add-on for Revit, the BIM tool for electrical planning. It can also be used to simulate the technical data of PIR sensors with presence and motion areas. For me, proper BIM planning is more than just dragging a stupid 3D object, which at best still knows what it's called and which company it comes from, into the building without technical data.



ESYLUX IS »BIM READY«

Building information modelling is being used more and more often when planning larger projects and ensures greater transparency and efficiency across disciplines. The automation and lighting solutions can also be easily planned by ESYLUX with ReluxCAD for REVIT, the BIM program for electrical planning – as with the PD-C 360i/32 presence detector above. The appropriate RFA file is available to download for every product.

How would you explain the advantages of BIM in simple terms?

With BIM, everyone works with the same building model and can use the information for their own planning activities. There's the person responsible for ventilation who draws ventilation pipes in the rooms, then there's the electrical planner who routes cables on the ceiling so that they don't get in the way of the ventilation pipes. The electrical planner takes this information into account, for example, when planning the lighting and the motion and presence detectors. The goal is greater efficiency, transparency and sustainability. However, some effort is still required before this is achieved. A small but important piece of the puzzle is the suppliers' product data.

Will BIM change job profiles in the field of building services engineering?

It's already doing so. I have the greatest respect for all these planning offices, which actually had to get their heads around all this from one day to the next. They were all thrown in at the deep end. They were suddenly told: You now have to plan using BIM. And lots of countries jumped right on the bandwagon. You could really see how more and more countries, from England right down to the south, started to specify BIM for public works projects, without knowing exactly what they were demanding. So, we are going through an extremely exciting time.

»I NEVER WANTED TO BE INVOLVED IN SOFTWARE, IT JUST HAPPENED!«

Mr Hegi, in your younger years you were managing director of a electrical installation company. Does that help you with your work today?

It helps me massively. Especially because electrical installation technicians also plan the systems for smaller and medium-sized buildings themselves before they then implement them. I still benefit from this experience of how people work and plan. It is a very good basis and helps with seeing the situation from the user's point of view. That is one of my strengths. I never wanted to be involved in software, it just happened! Luckily, I have excellent people with excellent knowledge.

Finally, if you take a look into the future, what does lighting planning look like in say 20 or 30 years?

Here, I'm reflective and hope it is for the benefit of people. But, thanks to artificial intelligence and the networking of data and programs, a lot more will be automated. However, I actually find the expression machine learning more accurate than the term artificial intelligence. If we make the machine and the software that controls it so intelligent that it performs certain routine tasks better and more efficiently than a person.

The machine knows much better than a person where the optimal place is for a presence detector in the room, if it knows what you want to achieve with it. Then, the thing swooshes through the whole building automatically and, about five seconds later, they are all placed. There won't be any more manual copy and paste.

Many thanks for the interesting conversation. ■

INTELLIGENT LIGHTING FOR CLEAN LAUNDRY

EMPLOYMENT MARKET PROFESSIONALS AT MENOVA DRAW ON ESYLUX SOLUTIONS

The Norwegian company Menova helps people to find a job, with an increased focus on those who find it particularly difficult to gain employment. In addition to acting as an employment market service provider, Menova contributes with its own jobs. For instance, the company runs an assembly department, a fruit delivery service and a modern industrial laundry service with around 30 employees in the Kilemoen industrial estate, which is regularly certified in the areas of quality control, energy management and environmental friendliness.

INTELLIGENT SOLUTIONS FOR EACH AREA OF THE BUILDING

When redesigning the rooms in Kilemoen, they decided to use energy-efficient ESYLUX technology consistently throughout the rooms. In the laundry areas, COMPACT presence detectors control LED moisture proof luminaires from the OLIVIA series; in the individual offices, ISABELLE pendant lights and CELINE ceiling lights are controlled by BASIC presence detectors; and STELLA ceiling lights and COMPACT motion detectors are installed in the changing rooms. System lights with ESYLUX Light Control ensure flicker-free work lighting and presence and daylight-dependent constant lighting control in meeting rooms, open-plan offices, entrance areas – and in the canteen. ■

Robust LED moisture proof luminaires from the OLIVIA series supply the industrial laundry at Menova with clear, flicker-free light – intelligently controlled by COMPACT presence detectors. ▼

FLICKER-FREE LEARNING IN VRETA

The preschool in the Vreta municipality, close to the central Swedish city of Eskilstuna, looks after seven groups of around 130 children. The goal of the supervisors is to create an environment that inspires the younger generation and makes them want to learn. The farm adjoining the building complex also contributes to this unique setting and motivates and inspires play.

ELC lighting systems with panel lights from the NOVA series ensure flicker-free lighting in the classrooms, sleeping rooms and playrooms. They also feature presence and daylight dependent constant light control to create the best learning environment. The installer was also pleased: The time needed for installation was reduced by an estimated 40 percent compared to similar systems thanks to plug-and-play installation. ■

ENERGY-EFFICIENT EDUCATION IN STJØRDAL

The centre for adult education in the Norwegian town of Stjørdal provides primary education to adults, teaches Norwegian and social studies to immigrants and refugees and also has a special needs education department. In order to ensure a high level of quality in the training programme, those in charge rely on qualified employees with interdisciplinary specialist knowledge and on an optimal learning environment.

The entire building exclusively uses intelligent automation and lighting solutions from ESYLUX. ELC lighting systems, which can be manually overridden by ELC push buttons, ensure flicker-free lighting and presence and daylight-dependent constant lighting control in the classrooms. DUO DALI presence detectors from the COMPACT series work together with ISABELLE pendant lights and STELLA ceiling lights to create intelligent lighting in the offices. COMPACT motion detectors control STELLA ceiling lights in the corridors and ELSA downlights in the sanitary facilities. OLIVIA moisture proof luminaires are used in the storage rooms. ■

LET THERE BE LIGHT

THE NEW ESYLUX SERIES DEFENSOR

The DEFENSOR Series deliberately is not equipped with any potentiometers to prevent manipulation. Simple parameterisation, cloning of device configurations and mobile project management and documentation is instead carried out using the ESY-Pen and ESY-App. ▲

The presence detectors and twilight switches from the new ESYLUX series DEFENSOR offer innovative solutions for intelligent light control outdoors. They improve energy efficiency and comfort, but above all focus on the issue of safety. These benefits are achieved through features such as time-dependent operating modes, intelligent vandalism and sabotage protection and switch-off delay times based on motion direction detection.

It is 11 pm, the house is in darkness. Suddenly, a shape approaches from the street, looks around hesitantly, waits for a moment. Then it steps onto the driveway – and immediately the lighting comes on. Outdoor motion detectors are already ensuring increased security in many buildings like this. Yet, what if someone tries to manipulate the devices? And wouldn't it be even more flexible to be able to control the light depending on the time of day as well? The outdoor motion detectors and twilight switches from the DEFENSOR series offer innovative answers to these and other questions. ▶

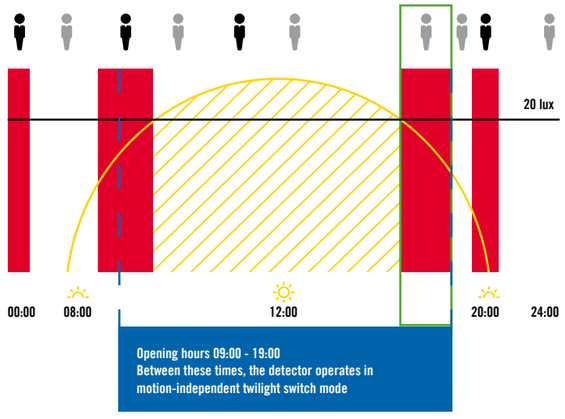
BURGLAR PROTECTION: LIGHTS ON!

TIME-DEPENDENT OPERATING MODES FOR FLEXIBLE CONTROL

The motion detectors from the series are available with detection angles of 280°, 230° or 200°. To also enable time-dependent lighting control, the 280° and 230° variants additionally have a time function. This enables it to deviate from the set standard operating mode in two time windows within a 24-hour day. The user can choose between the lighting modes fully automatic, semi-automatic, twilight switch mode and manual, motion-independent and daylight-independent on and off.

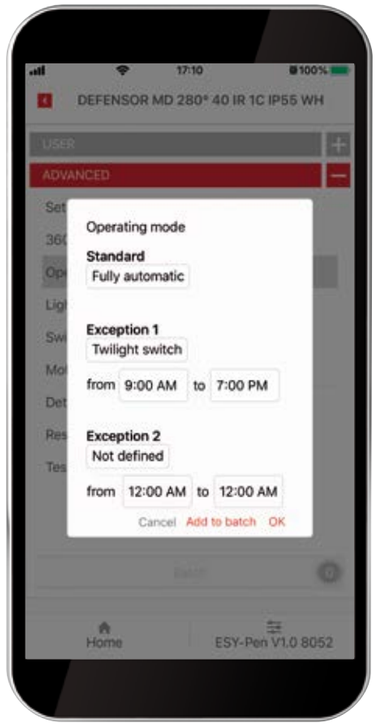
It would be conceivable for example, to use the motion detector as a twilight switch in the early evenings and mornings so that the light is switched on at these times even without movement being detected. This can, depending on usage, either act as a deterrent to unwanted visitors – or a shopkeeper would like to permanently light up his building in a presentable way during opening hours. The normal motion-dependent and daylight-dependent light control of the motion detector could then be used again after the shop has closed.

DEFENSOR combines three devices into just one:
motion detector, time switch and twilight switch.



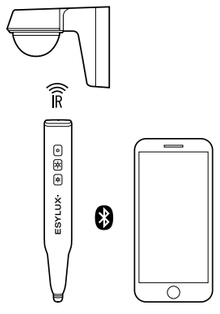
The DEFENSOR motion detector works in twilight switch mode between 9:00 and 19:00 to ensure presentable lighting during the opening hours of a shop. In this way the lighting is on during insufficient daylight even if no motion is detected. At night the detector is in the usual fully automatic mode. ▲

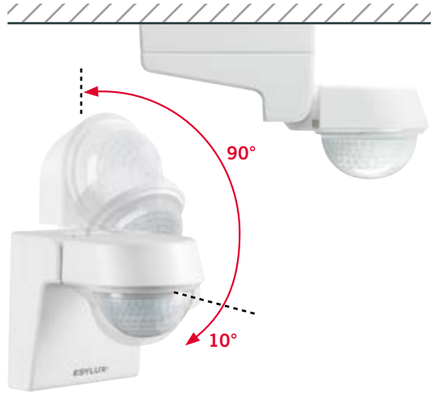
- Artificial light
- Sufficient daylight
- Present
- Absent



The time-dependent operating modes and all other parameters of the DEFENSOR series can be set conveniently in the ESY-App. ▲

The ESY-Pen acts as a bridge between Bluetooth and infrared for transfer to the devices. ▼





The DEFENSOR variants with detection angles of 280° and 230° have a tilting sensor head for wall and ceiling mounting. ▲

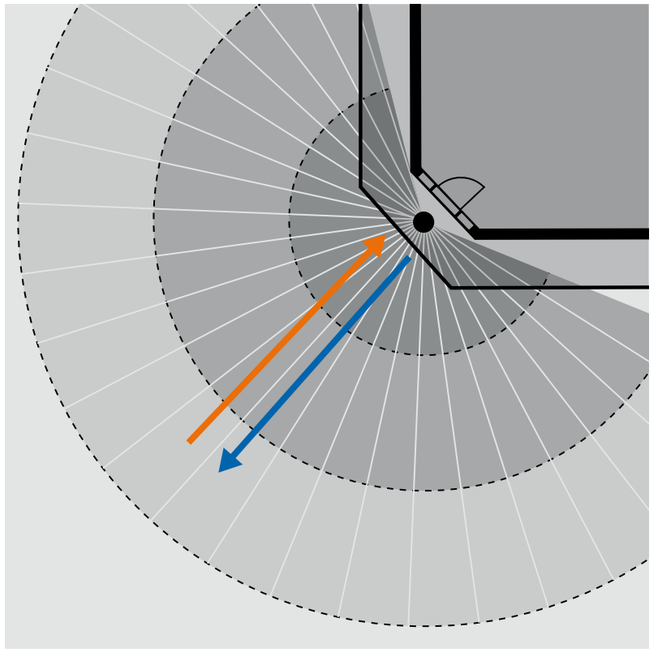
INTELLIGENT VANDALISM AND SABOTAGE PROTECTION

Intelligent vandalism and sabotage protection ensures greater security in the 280° and 230° variants of the series. Both have a tilting sensor head, which enables ceiling mounting if required, for example on carports or sloping roofs.

If someone now knocks off the sensor head in the hope of preventing the motion detector from switching on the lighting, the opposite will happen: The detector will activate the light permanently – and the culprit will be standing in bright light. ▶

SWITCH-OFF DELAY TIMES BASED ON MOTION DIRECTION DETECTION

The motion direction detection function of these variants also ensures greater safety and energy efficiency. They can distinguish between a total of four directions: Whether someone passes the detector from the right or from the left, or whether someone moves underneath the detector and is therefore entering or leaving the creep protection area. An individual switch-off delay time can be set for each direction. Either a short one to reduce the energy consumption, or a longer one if the light should continue to show for a while after motion is detected, such as for safety reasons.



The motion direction detection of the DEFENSOR motion detector for 230° and 280° enables different switch-off delay times. For example, if a motion detector is mounted above a door, it can distinguish whether a person is entering or leaving the house using the creep protection area. ▲

Movement towards the detector
Movement away from the detector

The entire DEFENSOR series also benefits from a number of enhanced protective measures: A personal password prevents unauthorised parameterisation, the devices offer IK07 impact resistance plus the IP55 protection type, and the overvoltage protection fully exceeds the standard minimum requirements. The integrated push button input allows the user to manually switch on the light from inside the building to temporarily light up the area to the right of the window. Zero-cross switching protects the relay when the LED lights are operated.

The T variant of the DEFENSOR twilight switch also enables time-dependent lighting. ▲

TWILIGHT SWITCH WITH TIME-DEPENDENT OPERATING MODES

The series includes two twilight switches. As their name suggests, the twilight switches switch on the lighting when dusk begins to fall and only switch it off again the next morning once there is sufficient daylight. The T variant (with a 'T' that stands for 'Time functions') also has an internal clock and two time windows in which it can switch the light on or off regardless of the amount of daylight. This feature helps to reduce light pollution at night.

All of the devices in the series are delivered with default settings and are ready for immediate use. The housing has been purposely designed without setting controls to prevent unauthorised manipulation. Instead, the parameters can be adjusted easily with ESY-Pen and ESY-App. This app allows users to adjust settings such as the detection sensitivity in several individual zones covered by the 280° and 230° variants. The ESY-Pen and the ESY-App also allow the parameter settings to be stored and accessed on the go, and applied to similar products through cloning. A PDF report function completes the project documentation. ■

WHAT ESYLUX CUSTOMERS SAY ABOUT DEFENSOR:

»A very nice and innovative product. Many application possibilities. High quality. Highly recommended.«
Norbert Lehmann, Frank SIEM GmbH, Germany

»The time functions are a great feature!«
John van Herpen, Van Lith Elektrotechniek, The Netherlands

»Simple to set up and high level of safety against unauthorised interference.«
Benjamin Adler, Elektromeister Dieter Händel e. K. (owner B. Adler), Germany

»The product was easy to install.«
Kai Aarnio, Electrical Services Koskela GmbH, Finland

»The large wiring space is excellent. The design is attractive.«
Heiko Büchling, Landwehr + Schultz Elektroservice GmbH, Germany

Now discover DEFENSOR virtually as a 3D model on our website!

COMPACT INTELLIGENCE FOR DALI-2

BMS PRESENCE DETECTORS FOR BUILDING MANAGEMENT SYSTEMS

With the BMS presence detectors from the COMPACT series, ESYLUX presents solutions for intelligent light control in accordance with the DALI-2 industry standard. As input devices they send the results of their motion and lighting sensor technology and commands of conventional buttons to the control unit of the DALI system. Different detection ranges cover all relevant applications in the building.

Intelligent light control in accordance with the DALI international industry standard has always represented simple planning and installation. The further development of DALI-2 now also guarantees the interoperability of devices from different manufacturers: Project managers can now easily assemble a solution made up of the best-in-class devices.

TRUSTED SENSORS FOR INTELLIGENT LIGHT CONTROL

For presence and daylight-dependent automation of a DALI-2 lighting system, ESYLUX now presents the ceiling-mounted presence detectors PD-C 360/8 BMS DALI-2, PD-C 360/24 BMS DALI-2 and PD-C 360/32 BMS DALI-2. They belong to the successful COMPACT series and therefore feature motion and lighting sensor technology that has been used successfully in conjunction with other control interfaces for many years.

As BMS presence detectors (BMS = building management system), they act as input devices in accordance with the DALI-2 classification, and transmit the results of their presence detection and light measurement to the control units of the relevant system. This may be a building automation system with a DALI-2 interface or a DALI-2 presence detector with an integrated application controller in the room itself. All new presence detectors also feature two inputs for conventional buttons, the commands of which are issued as DALI-2 commands and can be freely assigned to the respective groups.

EASY INSTALLATION WITH COMPACT HOUSING

The PD-C 360/8 BMS DALI-2 has a maximum detection range of 8 m in diameter. For customers looking to cover a larger area with only a single presence detector, two further variants are available with detection ranges of 24 m and 32 m. The new presence detectors come in the same format as the rest of the COMPACT series: a two-part housing with sensor head and powerbox to make installation quick and easy. ■

The COMPACT series offers a uniform housing design for each application and technology – including now for DALI-2 lighting systems in building management systems. ▶

NEWSFLASH

BENEFIT FROM FASTER DELIVERY TIMES WITH THE ESYLUX CORE PORTFOLIO

ESYLUX has classified its entire portfolio of intelligent automation and lighting solutions according to delivery times, giving customers a better overview and creating efficiency. In the foreground is the core portfolio, which is divided into two categories: In-stock products that can be delivered within 72 hours and easy-to-manufacture products with a delivery time of no more than 14 working days.

Products from the two categories are quick to identify thanks to the product filters on the ESYLUX website. In addition or alternatively the symbol next to the product shows which category the product belongs to. All other products are marked with an »i«, which signals to the customer that they need to enquire about the delivery time. The new ESYLUX catalogue 2020/2021 also has a visual next to each product. ■

PLUG IN, SAVE, DONE: WINSTA MEETS ESYLUX

In times of high demand and a lack of skilled workers, time-saving solutions are even more important for electrical installation. Therefore, the COMPACT series now also offers presence and motion detectors with WINSTA plug-in connector from WAGO: For more energy efficiency via plug-and-play and an equally safe as trouble-free installation.

The new detectors also include the DUO-DALI presence detector from the series, which with their additional offset light channel play out their full potential especially in rooms with just one window side. The new detectors can be combined with CELINE ceiling lights thanks to new driver sets from ESYLUX – of course also using plug-and-play! ■

INTO THE THIRD DIMENSION WITH DIALUX

Whether direct in the light planning software or in building information modelling (BIM): The realistic, three-dimensional representation of products provides significant added value for planners, architects and other project managers. ESYLUX has therefore created 3D models for all lighting products and integrated them into its plug-in for DIALux. Users now only have to drag the product from the plug-in into the DIALux room and they're done! ■

Energy-efficient office lighting in 3D: Two ISABELLE free-standing lights and two CELINE panel lights in the virtual DIALux room. ►

ESYLUX OPTIMISES ITS PRODUCT DESIGNATIONS

ESYLUX has standardised its naming concept to make searching for relevant automation or lighting solutions even easier. The names of the established presence and motion detectors such as the COMPACT series remain unchanged. Lighting products and automation products newly introduced from 2020, however, will start uniformly with the series name and the product type. The differentiators have been standardised in the area of lighting according to the international industry standard.

A glossary on the website as well as in the new ESYLUX catalogue 2020/2021 provides a breakdown of the formula, offering an immediate overview of all device categories. It's even easier for visitors to our website's product area: An interactive Tooltip will display a brief description of the individual parts of all standardised product names when you hover the mouse over them on the product pages. ■

TOUCHLESS

ESYSHOW | FROM 09/2020
ON THE ESYLUX HOMEPAGE

NOW DISCOVER ESYLUX INNOVATIONS VIRTUALLY

ESYLUX is now presenting current innovations at its virtual trade fair **ESYSHOW**. Discover new products such as authentic 3D product models. For example, the outdoor motion detectors and twilight switches from the DEFENSOR series or the DALI-2 presence detector for building management systems. Interested? Then, visit our trade fair 24/7 via our ESYLUX homepage!

HYGIENIC LIGHT SWITCHES. ESY!

Where presence and motion detectors replace light switches, they can make an important contribution to health. Particularly when many people use the same room – such as in sanitary facilities, staircases, corridors and offices!
www.esylux.com/switch-lights-on-and-off-hygienically

ESYWORLD editorial information

Publisher:
ESYLUX GmbH
An der Strusbek 40
22926 Ahrensburg, Germany
Telephone +49 (0) 4102 88880-0
www.esylux.com

Editorial team:
Christian Schöps, ESYLUX
(Editor in chief)

Graphic design:
ESYLUX

Picture credits:
Fotolia: 63272661, 87815816
iStock: 497153020, 830255368, 672317074, 175397796, 1068777864, 620952978, 1162127242, 542299962, 469850273, 519263782
Shutterstock: 361226012
Thinkstock: 177858625, 457797223
Reference: Relux
Reference: Menova
Reference: Förskola Vreta
Reference: Centre for adult education Stjørdal

PERFORMANCE FOR SIMPLICITY

ESYLUX develops, manufactures and sells intelligent automation and lighting solutions for improved quality of life and energy efficiency in office buildings, educational institutions and health care facilities. People's requirements and needs are central to what we do. To satisfy these requirements, we use our experience in electronics and automation to develop products such as LED-based systems for energy-efficient, Biologically effective lighting. Our perspective ranges from the complete automation and illumination of individual rooms through to networking and integration into building-wide systems. In light of the often complex requirements that we are faced with, we place particular importance on easy operation of our product solutions.

We work with wholesalers, installers, electrical planners, lighting planners and architects as both customers and partners who place their trust in our extensive market experience dating back 50 years and in the personal technical advice from our experts. Furthermore, we meet the highest quality standards in our research, development and production at our German location in Ahrensburg. Our sales organisation is global: ESYLUX operates in collaboration with experienced trading partners and is represented by numerous subsidiaries in Europe, Asia and Oceania.

Do you have any questions or comments, or would you like to subscribe to ESYWORLD? Visit us at www.esylux.com

www.esylux.com

ZPEX 02589 • 09/20 • 0,2 • DF
4 015120 925894