



Intelligent Light Control Systems



For Outdoor Applications

LIGHT GUIDES YOU SAFELY THROUGH LIFE





The right street lighting ensures a smooth and accident-free flow of motorised traffic. And in inner-city and residential areas, street lighting creates an appealing atmosphere and substantially increases the quality of life.

SET A COURSE FOR SAVINGS WITH MODERN LED MODULES AND MATCHING LIGHT CONTROLLERS

Unfortunately, however, the costs for street lighting remain very high. Up to 50% of public-spending budgets flow into public lighting, especially when it involves conventional technologies such as discharge lamps.

But modern LED modules and matching light controllers let you set a course for SAVINGS. Not only will energy consumption decrease, but CO₂ output will also substantially drop. And by adding intelligent light controls, e.g. for nocturnal dimming of lighting levels during set times, energy savings of up to 80% can be achieved.







Modernising Street Lighting

Public authorities are called upon to face a major challenge. Whether in schools, administrative buildings, on streets or in railway stations, the majority of lighting systems is inefficient and no longer fitted with state-of-the-art lighting technology. As a result, there is a great need for modernisation, which in turn requires thorough planning and financing.

For this kind of refurbishment project, public authorities in Germany can expect to receive support from several areas (see diagram).

EU, Federal Government, Federal States

Since 2008, energy-reduction projects in Germany – which also include efficient lighting – are being supported by the national climate protection initiative of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety.

Beyond that, the German federal states are also subsidising climate-protection projects that simultaneously pursue a reduction in energy consumption, such as energy-efficient refurbishment work on buildings.

Innovative projects that promote biodiversity and the prevention of light emissions are supported by the EU with funding schemes such as "life+". The EU presents the GreenLight Award to particularly efficient lighting projects. (Source: licht.de)

Calculate your project under:

www.vossloh-schwabe.com/en/home/solutions/lics-outdoor/ calculator



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ECO-CONSCIOUS USE OF LIGHT





Vossloh-Schwabe's LiCS Outdoor light management system provides numerous options to make efficient and eco-conscious use of light.

• A freely selectable dimming sequence when the system is switched on or off serves to make optimum use of natural residual light.



- Further savings potential can be achieved by adding brightness and motion sensors since they ensure that lighting is switched on only when needed.
- With 10 dimming levels, brightness can be very finely adjusted during night-time hours.



• For danger zones like pedestrian crossings, systems can be set to reduce light levels only after a certain delay, which increases safety.



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The Maintenance Factor of a Lighting System

Lighting systems are subject to age-related wear and soiling, for which reason a so-called maintenance factor is defined when the system is installed. This maintenance factor denotes the degree of redundancy such a system must feature to ensure that standard lighting levels can be maintained up to the time at which maintenance work is carried out.

LICS OUTDOOR CONTROLLERS FEATURE A MAINTENANCE FACTOR FUNCTION

The assessment criteria that underlie the maintenance factor are not standardised. The maintenance factor for outdoor lighting is defined as 0.57 by the expert commission of the LiTG (German Lighting Technology Association). The as-new value of a luminaire can be calculated by dividing the maintenance value by the maintenance factor, e.g: 600 k / 0.57 = 1052.63 k. However, using a "flat" maintenance factor can quickly result in a system being over-dimensioned, which in turn leads to unnecessarily high energy consumption. LiCS Outdoor controllers feature a maintenance factor function that intelligently controls luminous flux over the service life of the respective lamp and thus makes over-dimensioning unnecessary.



LiCS Outdoor - Overview of Systems

	Smart Night	Flex Night	Managed Night
Multifunctional energy savings	•	•	•
Central modification of dimming sequences		•	•
Motion-following light on the basis of motion detection			•
Connection to central control technology			•
Readout of data, e.g.			•
energy consumption			•
service data on maintenance costs			•

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LICS OUTDOOR

SMART NIGHT UND FLEX NIGHT





Smart Night / Flex Night

- Universally suitable for every lamp technology (LED and discharge lamps)
- Suitable for both electronic and magnetic control gear
- \bullet Control via DALI, 1–10 V and PWM
- Up to 10 freely selectable dimming levels











LICS OUTDOOR

MANAGED NIGHT





Managed Night

- Open standard ensures safe investment
- Fast commissioning thanks to special software tools
- Bidirectional data transfer using existing network cables







80% ENERGY SAVINGS

SMART NIGHT





Pilot project: Rothalden Street, Schwäbisch Gmünd

Rothalden St. in the German town of Schwäbisch Gmünd is a typical cul-de-sac in a residential area that was planned and built in the 1980s. The cul-de-sac was originally equipped with 2 x 80 W high-pressure mercury vapour lamps, which were then replaced with high-pressure sodium vapour lamps. Latterly, a 70 W retrofit highpressure sodium vapour lamp with an internal ignitor was in use.

Due to the very low footfall in the cul-de-sac during night-time hours (between approx. 23:00 and 04:00 hours), the street was ideal for aflexible control solution featuring a "lighting on demand" function. This was why the Schwäbisch Gmünd utility company decided to launch the "Lighting on Demand" pilot project in cooperation with Vossloh-Schwabe.

The luminaires of 7 lampposts were therefore replaced with LED luminaires each providing an output of 35 W. In addition, these luminaires were fitted with built-in iMCU luminaire controllers made by Vossloh-Schwabe. These controllers work independently in accordance with a programmed schedule that serves to regulate lighting levels in the cul-de-sac. Furthermore, the Flex Night concept makes it possible to remotely adjust all settings.

The project kicked off with the following settings:

until	22:00			100%
from	22:00	to 2	23:00:	50 %
from	23:00	to	4:00:	20 %
from	4:00	to	5:00:	50%
from	5:00	onw	ards	100%

By pressing any one of three push-button switches located at either end and in the middle of the cul-de-sac, residents can increase the lighting level to 50% for a period of 10 minutes from 23:00 to 04:00 hours. This configuration not only does justice to the issue of safety (by providing the street with basic illumination at night), but also maximises energy savings.

In comparison to the previous lighting set-up, the new configuration has served to reduce energy consumption by 80%.

EV CHARGING STATION

VEHICLE CHARGING AT THE LAMP POLE





Streetlight managment system and ev charging station

Street lighting systems are mostly powered using their own separate supply grid, with lighting being centrally switched onor off at a distribution board in response to signals received from an astronomical-clock timer or a light sensor. Attaching a charging station for electrically powered vehicles to such a network would mean that power would only be available when lighting isswitched on. However, using the VS Smart Night controller coincidentally solves this problem since its powerline controller activates lighting at every single lamp pole. As a result, the lighting network can be supplied with power on a permanent basis, thus removing any limitations for also using it to provide charging stations for e-vehicles.

The combination of both systems enables huge energy savings in street lighting and at the same time makes it possible to use existing infrastructure for the purpose of charging electrically powered cars in the future – and without the need for major investment.

• Light Management

Efficient control for all outdoor lighting systems.

• Infrastructural Synergy

Integrating cost-effective ubitricity system sockets straight into lamp poles also makes it possible to create a widespread public network of EV charging stations at an affordable price.

• Electricity Meter

The mobile electricity meter contained in the ubitricity charging cable serves to gauge the power drawn to recharge a car's batteries and transfers the gathered data to a standardised billing system.

• Settling Power Bills

The data transferred by ubitricity are then used as a basis for the invoice the respective user receives from the power utility company of their choice.

• Load Management

Optimal use of the cable grid with a network of EV charging stations that is dimensioned to satisfy actual needs.



Whenever an electric light goes on around the world, Vossloh-Schwabe is likely to have made a key contribution to ensuring that everything works at the flick of a switch.

Headquartered in Germany, Vossloh-Schwabe has been a member of the global Panasonic group since 2002 and counts as a technology leader within the lighting sector. Top-quality, high-performance products form the basis of the company's success.

Vossloh-Schwabe's extensive product portfolio covers all lighting components: LED systems with matching control gear units, OLEDs and stateof-the-art control systems (LiCS) as well as electronic and magnetic ballasts and lampholders.



A member of the Panasonic group **Panasonic**



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