Street Light Control: Innovative Light Control

OSRAM

SEE THE WORLD IN A NEW LIGHT
**Light that stays contemporary**

The central themes of our time – energy efficiency and sustainability – also change the demands on street and outdoor lighting. There is no alternative for reducing energy consumption and operating costs, whilst simultaneously optimizing the lighting of safety-relevant areas.

The need these days is for innovative lighting solutions that can handle the technical and economic requirements of the 21st century. Thanks to our years of experience in the field of light management systems, we can offer just that: Street Light Control, intelligent light control for outdoor areas.

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Your plan for perfect street lighting: Please unfold it!

The control elements in the SLC system allow individual control and monitoring of each single luminaire. The components are available as pole mounting or luminaire mounting and facilitate individual switching and dimming (via 1…10 V interface). This is how SLC works:

1. **Energy efficiency and cost savings**
   - 5. SLC-Luminaire Controller / SLC-Pole Controller
   - **1. Unlimited flexibility**
     - 3. Increases flexibility of the lighting planning for your lighting and thus improving the energy efficiency of the complete street lighting system.
     - **3. Safety with light**
       - Prevents the occurrence of public safety hazards.
       - **2. Internet protocol (IP)**
         - An additional advantage: The system information also facilitates optimum energy savings – up to 50 % per year.
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       - **4. Powerline**
         - The SLC gateway, mounted in the field, e.g. in the switching cabinet, stores, processes and translates the control commands initiated by the SLC software. Depending on the requirements, the SLC gateway can be used to incorporate a series of auxiliary components, such as meters, relays or light sensors in the overall system.
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           - The SLC-Luminaire Controller / SLC-Pole Controller is an intelligent and extendable luminaires controller. In order to ensure optimum communication, each controller can also act as a signal amplifier.
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**Introduction**

**Products**
Highly sophisticated street lighting

OSRAM Street Light Control (SLC) is an innovative light management system for outdoor lighting. It provides demand-oriented control and monitoring for both individual luminaires and up to thousands of light points. SLC thus facilitates a reduction in energy consumption, CO₂-emission and light pollution.

The central element is the SLC software, which allows you to keep the entire street lighting under control. For optimized maintenance planning for your lighting and thus improving safety on the roads.

STREET LIGHT CONTROL (SLC) – AN INNOVATIVE COMPREHENSIVE CONCEPT FOR OUTDOOR LIGHTING

1. Saves energy and reduces operational costs
2. Increases security
3. Increases flexibility of the lighting
1. Energy efficiency and cost savings

Choose an intelligent light management system for outdoor lighting projects: Street Light Control ensures reduction in energy consumption and CO₂-emissions. Unnecessary lighting can be prevented by targeted dimming of sectors of the city, roads or individual luminaires. For example, the light level can be dynamically adapted to the aging of the light source. Overall, SLC can be used to make effective and consistent energy savings – up to 50 % per year.

Street Light Control also has an effect on the maintenance costs: It provides the option of central detailed monitoring and analysis of a lighting installation and enables easy maintenance planning. The condition of each luminaire can thus be checked at any time and luminaire failures are precisely traceable. An additional advantage: The system information also facilitates optimum route planning for the maintenance crews.
2. Safety with light

Whether roads, paths or industrial installations – lighting needs to be reliable in all situations. Many years of experience in the development and design of products for outdoor lighting have prepared OSRAM for the supply of robust and reliable system components to meet the diverse requirements of the outdoors.

In this context, it is particularly important to consider the security of communication between the switching cabinet and the luminaire, as well as the resistance to voltage peaks and weather. In this area, our tried and tested Powerline technology provides the best possible functional security.

This means not only for the cities and communities, but also for the citizen: demand-oriented light in obscured areas or under bad weather conditions. Finally, an intelligent lighting system contributes to the contemporary design of the urban living space, by creating a quality of life and spaces where the citizens feel comfortable.

Simply smart: Powerline technology

Powerline technology is used to extend existing mains power networks into data transfer networks – without the need for additional wiring. The ideal technology for lighting installations that can be extended simply and cost-effectively to produce communication networks. The important fact is that OSRAM applies the Powerline standard ISO/IEC 14908, which permits incorporation of system components from various suppliers.

The benefits at a glance:
- communication via existing power cables (existing infrastructure)
- simple expansion of groups of luminaires
- extensive field trials of technology in energy and automation technology
- no interruption of communication by weather effects
3. Unlimited flexibility

The world is continuously changing – and so is the cityscape. With Street Light Control, the lighting can be adapted to match these changes. Individual luminaires can be grouped, e.g., in streets and pedestrian overpasses. SLC also permits the user to control and monitor the luminaires, individually or in groups – depending on the application.

However, the flexibility is not limited to the high level of extendability. Street Light Control is also highly compatible and can be combined with other management and infrastructure systems. In addition, the various different installation possibilities of the flexible hardware (for example pole and luminaire mounting) and the various different communication possibilities with all relevant interfaces guarantee made-to-measure lighting solutions.
Everything quite simple: the system and its components

1. SLC software
The SLC software is the central interface for the user to the SLC system. It facilitates the administration, programming and analysis of the lighting installation. The SLC software can be installed locally or in the cloud. For each user only the allocated functional area is visible.

2. Internet protocol (IP)
The communication between the SLC software and SLC gateway at street level is via a secure IP connection, e.g. by GPRS, ethernet or fiber optics.

3. SLC gateway
The gateway, mounted in the field, e.g. in the switching cabinet, stores, processes and translates the control commands and polls initiated by the SLC software. Depending on the requirements, the SLC gateway can be used to incorporate a series of auxiliary components, such as meters, relays or light sensors in the overall system.

4. Powerline
The data is transmitted between the SLC gateway and the connected luminaires by means of a Powerline communication via the mains supply. An additional communication infrastructure, such as additional wiring or antennas is not necessary.

5. SLC-Luminaire Controller / SLC-Pole Controller
The control elements in the SLC system allow individual control and monitoring of each single luminaire. The components are available as pole mounting or luminaire mounting and facilitate individual switching and dimming (via 1…10 V interface or DALI) of all the luminaires. In order to ensure optimum communication, each controller can also act as a signal amplifier.

This is how SLC works:

Street Light Control is not only innovative, sustainable and economical – it is also particularly easy to incorporate in the existing lighting infrastructure.

Everything under control: the SLC software

The SLC software is the central interface, where all the information is gathered and made available to the user. The entire system is represented clearly and can thus be easily controlled, administered and analyzed simply from a central location.

Control
The user has a wealth of possibilities for controlling the SLC: He can define the switching calendar for lighting groups or individual lighting points and even stipulate exceptions during construction work or during holiday periods. It is also possible to control each luminaire in the system directly.

Administration
Thanks to the software, the scalability of the system and the individual light points is really easy: This permits, for example, flexible grouping of the luminaires, the best possible prediction of the need for maintenance by evaluation of the light source lifetime and automatic signaling of failures.

Analysis
The analysis function of the SLC software provides outstanding transparency and control. It automatically records the data of all system components and simplifies the creation of evaluations and visualizations. The individual analysis reports, e.g. the energy evaluations, are created and exported cyclically, and, if required sent by e-mail.

The status of the lighting installation can be visualized using online maps (Open Street Maps) or using your own planning documents.

The user interface can be individually structured and adapted to the specific requirements.
OSRAM and Siteco: a complete solution provider

In the lighting market, OSRAM and Siteco are recognized as experienced and innovative players. What both companies have in common: They are completely dedicated to the development of lighting solutions.

One result of this development is the Street Light Control system. Combined with the comprehensive Siteco outdoor luminaire portfolio, a versatile, future-proof solution for secure, energy-efficient and flexible outdoor lighting is offered.

OSRAM, as a complete provider, not only offers the components for systemized street lighting – OSRAM is also the partner for commissioning or user training.

More information available at www.osram.com/slc and www.siteco.com

FAQ

Street Light Control

Q: How reliable is the Powerline communication? What are the advantages compared with data transfer by wireless communication?
A: Street lighting is generally powered by its own mains power network. The Powerline communication is thus not susceptible to interference from other loads, such as private domestic connections. In addition, Powerline does not suffer interference from the effects of weather or other networks (WIFI) and is protected from unauthorized access because it is mains network based. Obstructions such as buildings and trees also have no influence on signal transmission.

Q: Is the installation very complicated?
A: No. The hardware can easily and quickly be installed in the switching cabinet and in the luminaire using just a few steps. The software can be installed in the same way as any other program. Clear user guidance makes configuration on the server easy. We gladly support you in the commissioning of the system and in training users.

Q: Have you ensured that the system can be extended at any time in the future?
A: Street Light Control is adapted to suit the long lifespan of outdoor lighting. Standardized communication interfaces ensure that our components are future-proof and highly compatible with various manufacturers. In the development of hardware and software components, we always make sure that they are backwards compatible in the long term.
More information on Street Light Control and the innovative light management systems by OSRAM can be found on the internet.

www.osram.com/slc
OSRAM AG "Street Light Control – reliable, robust and efficient"

Introduction

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