

Remote management system of LED street lighting



Composition

The system is made by:

- 1 **Management and controlling software (LMS) running on remote server.**
- 2 **Programmable external gateway (Node).**
- 3 **Radio adapters installed inside the luminaires (Controller).**

The management and controlling software (**LMS**) communicates with the gateway (**Node**) placed on the territory, by a network connection (**Ethernet**) or by wireless data connection **GPRS/3G**.

The **Node** and the **Controllers** are equipped with a wireless adapter, working on ISM frequencies, that allows the **Controllers** to connect with the closest **Node**. In order to guarantee a stable communication between all the luminaires (event the farthest), the **Controllers** are linked using a mesh network.

Using the mesh network, each **Controllers** receives the instructions from a **Node**, itself remote commanded by the **LMS**. The **Controller** interprets the received data, adjusting the luminous flux according to the values set in the **LMS**. Each luminaire can be adjusted separately from the **LMS**.

In case of network malfunction, the **Node** is able to save the status and send alerts using the SMS service (if GPRS/3G adapter is installed).

In case of fault of a luminaire, the information is saved by the **Node** and sent to the **LMS** in order to activate immediately maintenance and analyze the stats.

Moreover, it is possible to install in the **Node** a series of optional sensors for using the same structure for the most various scenarios.

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General features

- Remote management of the public roadway lighting: with simple operations is possible to turn on and off even the single streetlight and the level of dimming in order to obtain always the adequate level of light.
- Possibility to store **six different programs through the day**: by this way the luminaires can adjust automatically according to visibility requirements.
- Possibility to use **different programs for different roads** or groups of luminaires: it is possible to maximize energy savings keeping the same performance
- **Storage of stats** on the power consumption and failures on each luminaire.
- Use of **Google Maps** for localizing the fixtures in the easiest way.
- **Protected access to information** by web browser with **https** protocol.

System advantages

- **Up to 80% energy savings** compared to traditional lighting, with consequent reduction of CO2 emissions.
- **Remote control** of each single luminaire.
- **Real time control** of the lighting system.
- **Cost reduction** for checking and elaborating information.
- Immediate detection of failures, with consequent **reduction of overall service time**.
- **ROI in short time**.