

Mi-LUMENS

Luminaires Monitoring Mesh Network

Mi-LUMENS turns any ordinary streetlight into intelligent one by enabling users to switch it on/off, adjust dimming levels, and monitor its real-time operational state and power consumption from remote offices over the Internet. This ensures more efficient streetlight maintenance and management.



Overview

Mi-LUMENS is a smart controller that eases the maintenance and management of LED streetlights. It allows users to switch the streetlight on/off, adjust its dimming levels (for compatible LED streetlights), monitor its real-time power consumption and be alerted when the streetlight is faulty. All these operations are administered remotely over the Internet via an intuitive and user-friendly web dashboard.

Mi-LUMENS uses 6LoWPAN, which is a low-power wireless network technology where each device has its own IP address. This allows the device to easily exchange data with remote hosts over the Internet or wireless local area network through a gateway. Communication between device and gateway uses sub-GHz ISM radio band (919-923MHz). This enables longer communication range with less RF interference compared to 2.4GHz band. A Mi-LUMENS device is also capable of forming ad-hoc mesh network with nearby Mi-LUMENS devices to further extend the communication range.

Features

Mi-LUMENS comprises following features:

- **Rated for 100-250 VAC, 50/60Hz**
Supports supply voltage of 100 to 250 VAC and maximum load current of 10A.
- **IP67 Outdoor Protection**
Designed for outdoor use and harsh environments.
- **Operational State and Energy Consumption Reporting**
Monitors real-time operational state and energy consumption of individual streetlights.

- **Remote and Scheduled On/Off and Brightness Control**
Allows switching on/off and dimming individual streetlights from remote locations as well as setting predetermined schedules.

Technology Benefits

The benefits of Mi-LUMENS are:

- **Long Range Communication**
Mi-LUMENS operates at sub-GHz frequency where signal absorption by the environment is less compared to its higher frequency counterpart. Thus, long range communication over difficult terrain and non-LoS condition is possible.
- **Reduced RF Interference**
Compared to the 2.4GHz ISM band, the sub-GHz band is less crowded and relatively interference-free.
- **IP-Based Low Power Wireless Mesh Network**
Mi-LUMENS is a low power embedded device that can form an ad hoc wireless mesh network and be able to communicate over the Internet via gateway. This allows the device to send and receive data via the cloud as well as eases OTA firmware updates.

Applications

Streetlight Manufacturers, Local Councils, Maintenance Contractors

