Intelligent, Flexible, and Scalable Networked Lighting Controls

Wireless Digital Lighting Management

legrand

The Four Pillars of DLM Differentiation

Wattstopper wireless Digital Lighting Management (DLM) is an intelligent system of connected devices that creates a data-rich environment capable of adapting as building and occupant requirements change. The seamless, code-compliant solution can scale from an individual office to a networked campus.

Built using the latest open IP-standards and protocols, providing secure and reliable communications

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Layers of security with Wattstopper Secure Commission and Secure Control technologies

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Ultimate design flexibility between wired and wireless DLM products, enabling hybrid rooms or buildings

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Installation and commissioning made simple from specification to occupancy

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The Complete Wireless Solution

The DLM system operates using wired, wireless, and hybrid connectivity with native BACnet® support. Product line features include:

- Quick and easy wireless installation
- IPv6 mesh for secure network communications with all wireless DLM devices
- DLM Configuration app enables commissioning using Bluetooth® wireless technology
- Ten-year battery life, LED battery-alert indicator, and software notifications
- Seamless design and compatibility between devices

Wireless IPv6 Mesh Border Router
LMBR-650

Wireless Network Bridge
LMBC-650

Wireless Dimming Room Controller
LMRC-611MCC

Wireless Ceiling Mount PIR Occupancy Sensor
LMPC-600

Wireless Digital Photosensor
LMDL-600

Wireless Corner Mount PIR Occupancy Sensor
LMPX-600

Wireless Dimming Wall Switch
LMDM-601

Wireless 5-Button Scene Switch
LMSW-605

DLM Configuration App

LMCS Design and Programming Software

Built Using the Latest IP-Based Standards

Wireless DLM leverages the latest in open IP-based standards and protocols including 6LoWPAN mesh, based on the IEEE 802.15.4 standard for low-power wireless devices and networks. These standards provide secure and reliable communication and seamless BACnet integration with the latest IoT systems.

Device Commissioning

Device commissioning using Bluetooth wireless technology allows room-level devices to pair and configure quickly with the DLM Configuration app on a mobile device

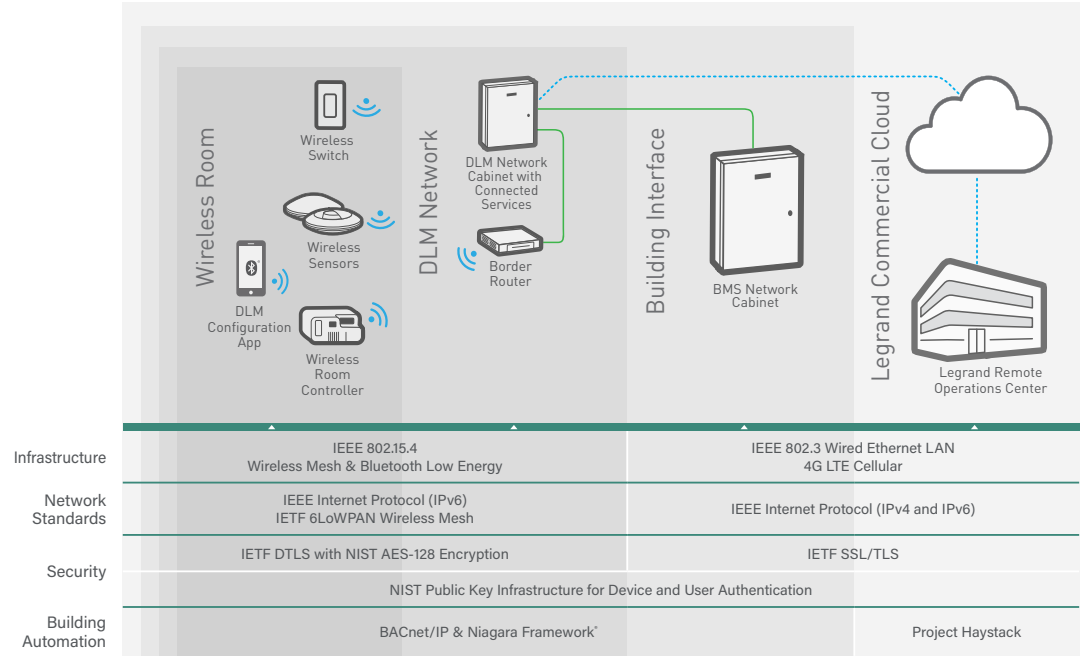
Room and Network Communication

A wireless DLM room self-configures, offering code-compliant sequence of operations profiles as devices are powered on and paired

Integration with Building Systems

Information in the Wattstopper DLM ecosystem is readily available to other systems using the BACnet communications protocol

Open IP-Based Standards from Edge to Cloud



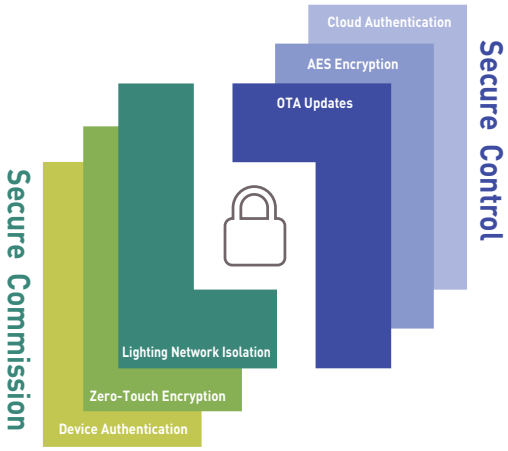
Layers of Security Matter Today

In commercial buildings, a secure network of connected devices is critical to meet high performance standards and ensure a comfortable work environment for occupants.

Security, a priority in the development of wireless DLM, is designed into every product and automatically activated upon start up. The result is multiple layers of industry-leading technology for the most advanced secure connection from edge to cloud.

Wireless DLM solutions are designed for advanced IoT security at each stage of the project lifecycle — from installation and commissioning through ongoing use.

Wireless DLM Layers of Security



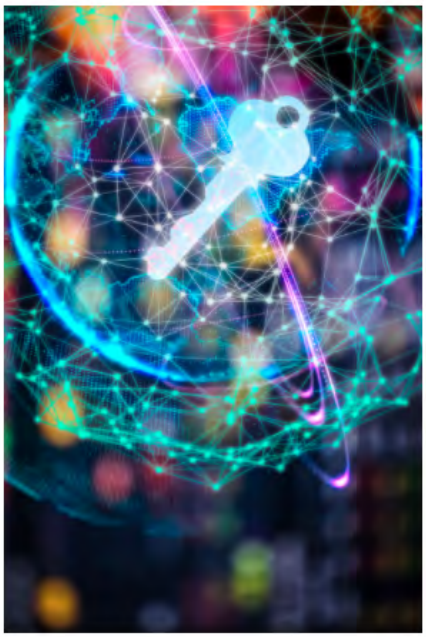
The wired and wireless DLM product family of networked lighting control devices and network connected systems are now certified through the ioXT Alliance Certification Program. The ioXt security certification positions the Wattstopper DLM networked lighting control solution to meet the DesignLights Consortium® (DLC) Networked Lighting Control System Technical Requirements (Version 5), also known as NLC5.

Secure by Design

Secure Commission Technology

There are three core components of our unique Secure Commission technology:

- Device Authentication: Trusted hardware chips provide secure device-to-device and device-to-network communication, preventing outside devices from being able to connect to the lighting control network
- Zero-Touch Encryption Provisioning: Pre-loaded digital identity and security profiles make the system automatically secure out-of-the-box
- Lighting Network Isolation: Designed to operate on a parallel network that can be supported through a secure, remote connection with Wattstopper Connected Services



Secure Control Technology

Once the installation and commissioning are complete, our security features continue to operate through a suite of technologies:

- Cloud Authentication: Supports user authentication which allows electrical contractors and technicians proper authorization to use the DLM Configuration app as well as site authentication to provide access to already commissioned buildings
- AES Encryption: Communication between devices is protected by AES-128 symmetric key encryption. Keys are randomly generated and securely shared while cryptographic processors store and manage certificates and keys to create a secure hardware environment
- Over-the-air (OTA) Firmware Updates: Updates can be transmitted securely with Datagram Transport Layer Session (DTLS) and verified by trusted hardware for authenticity

ioXt is the only certification that meets the criteria for Components, Embedded Devices, System, and Cloud Services which is why we've chosen to certify our networked lighting controls to their standards. Our ioXt certified products include a wide range of network interfaces and devices. Access the comprehensive list of DLM products that are ioXt certified by visiting the ioXt website: https://compliance.ioxtalliance.org/products.

Ultimate Design Flexibility

The wireless DLM system is fully compatible with wired DLM room products, enabling a unique hybrid architecture for open offices and spaces that require wired technology such as dual technology sensors, human centric lighting, and touchscreens. The DLM product line delivers design flexibility for wired, wireless, and hybrid rooms.

Wireless DLM + Wired DLM

Installation and Commissioning Made Simple

Installation and commissioning are made simple with unique hardware features, secure out-of-the-box encryption, and app-based commissioning. Because this system is wireless, contractors can install projects faster, with less risk, and reduce the time it takes to get a certificate of occupancy.

- Quickly pair wireless devices with the DLM Configuration app or through push-to-pair
- Easily meet code requirements by applying Sequence of Operation (SoO) profiles to spaces from the DLM Configuration app or LMCS Design and Programming Software
- Save time with unique hardware features
  - Mounting accessories included for either threaded rod or surface mounting
  - Optional plenum-rated bracket for recessed mounting (LMPC-600 or LMDL-600)
  - Snap-on sensor masks included (LMPC-600)

Recessed Plenum Mounting (RPM) Bracket

Luminaire Level Lighting Control

The DLM LMFS-601 fixture sensor features the latest in luminaire level lighting control (LLLC) technology. LLLC refers to the ability to control each luminaire in a space, independently from others in order to maximize control and energy savings within small spaces. Our fixture sensor features a built in photosensor, PIR occupancy sensor and is compatible with our Wireless DLM devices. The LMFS-601 fixture sensors are ideal for open area applications such as classrooms, open offices, cafeterias and other open indoor spaces.

The LMFS is luminaire agnostic and can be integrated with almost any luminaire specified for the project.

Benefits of the DLM LMFS-601 fixture sensor include:

- Energy Savings up to 74%*
- Energy Code Compliance through LLLC Path
- Design Lights Consortium™ (DLC) Rebates
- Enhanced Light Quality & Aesthetic
- Improved Occupant Comfort & Productivity

*Luminaire Level Lighting Controls Replacement vs Redesign Comparison Study, NEEA Report #E20-315, Sept 2020

DLM Software

Intuitive setup and commissioning options make installing a wireless DLM system easy. With Plug n' Go™ automatic configuration, energy codes are met immediately.

DLM Configuration App

Pair DLM devices over Bluetooth low energy technology to configure rooms and create scenes. Set up, test, push OTA updates, and adjust devices. (Available on Apple app store and Google Play store)

LMCS Design and Programming Software

Quickly commission and push OTA updates to multiple networked rooms or floors simultaneously. The software, which provides engineering drawings, automatically communicates with Legrand's cloud-based project database.

Wattstopper Technology-Enabled Services

Protect your DLM investment with Wattstopper Connected Services, a secure, remote connection to Legrand's Remote Operations Center (ROC) available for immediate diagnostics, programming, configuration, and troubleshooting support.

Then add Wattstopper's Technology-Enabled Service Contracts for on-site support and training to keep your system maintained for optimal performance well into the future.

Designing in an Era of Change

The lighting controls industry is rapidly changing — advancing from analog standalone controls, dictated primarily by energy codes, to providing a total building experience that meets a higher performance level while driving towards a Net Zero future.

Legrand® created the Wattstopper Digital Lighting Management (DLM) lighting controls system to meet the changing requirements of energy codes and to enhance energy management. DLM has become a cornerstone in commercial lighting systems enabling ease of design and installation.

As needs shift in an increasingly complex building environment, Legrand continues to design to exceed expectations. Wattstopper wireless DLM extends the system's capabilities into a new IP-based control platform — an ecosystem of simple, and scalable lighting controls focused on increasing building efficiency and performance.

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