Aesthetic, energy-efficient lighting control solutions for hospitality facilities

QUICK GUIDE TO LIGHTING CONTROL FOR HOTELS

WattStopper

PUTTING A STOP TO ENERGY WASTE®

legrand®

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Innovative lighting controls improve guest satisfaction and your bottom line

This guide illustrates scenarios for implementing lighting controls throughout a hospitality facility. Whatever the size of your project, the energy-saving experts at Watt Stopper/Legrand can help you identify control solutions that are the best fit. Whether you're the facility manager looking for ways to cut energy costs, or a specifier working on a new design, you'll find all the products, tools and services at Watt Stopper/Legrand.

Comfort and convenience
Your guests and staff will appreciate having lighting at optimal levels as well as controls that are easy to operate, or require no effort.

Mandatory code-compliance and sustainable design
Energy codes like ASHRAE 90.1 and IECC dictate lighting controls in new construction, and guests want to patronize businesses that are environmentally friendly. Controlling lights to save energy helps in achieving green, LEED-certified, designs and can be marketed to increase occupancy.

Safety and security
Travelers who feel safe and secure on your property are likely to return. By controlling both exterior and interior lighting you can be assured of providing safe, well-lit spaces.

Aesthetics and ambiance
Good lighting enhances good architecture, making your facility shine. Guests experiencing activities in the best light are more satisfied with their stays.

Reduced operating expenses
Automatically turning lights off when they're not needed reduces energy bills and increases lamp life, putting more green back in your budget.

Satisfy new code requirements and maximize energy savings

Both the 2006 IECC and ANSI/ASHRAE/IESNA Standard 90.1-2004 require all new hotels to include a master switch or control device at the main entry to each guest room that controls permanently installed lighting and switched receptacles throughout the room.

Having such a switch can improve guest comfort and convenience by providing a simple way to turn on and off multiple lights when entering or exiting a room. Installing a thoughtfully engineered master switch designed for energy saving will meet code requirements and maximize savings – preventing lights from burning in empty guest rooms.

Energy code details

The IECC reads: "505.2.3 Sleeping unit. Sleeping units in hotels, motels, boarding houses or similar buildings shall have at least one master switch at the main entry door that controls all permanently wired luminaires and switched receptacles, except those in the bathroom(s). Suites shall have a control meeting these requirements at the entry to each room or at the primary entry to the suite."

The 2004 ASHRAE standard uses different language, and currently does not exclude the bathrooms, as the IECC code does, but this language is under review and may be updated.

IECC – International Energy Conservation Code
ANSI/ASHRAE/IESNA Standard 90.1 – American National Standards Institute-approved standard, jointly sponsored by the American Society of Heating, Refrigerating and Air-Conditioning Engineers and the Illuminating Engineering Society of North America

Guest Room

For new hotel construction, choose an elegant, energy-saving solution from Watt Stopper/Legrand that is code-compliant and convenient for your guests and staff to use, ensuring their satisfaction and your savings.

HS Card Key Switch

- Upon entry, a hotel card key is inserted energizing the lighting circuits
- Upon exit, removal of the card key turns off the lighting throughout the room
- Switch is backlit for visibility in darkened rooms
- Allows 30-second egress time

Engineers can couple card key switches with Watt Stopper's lighting control panels to simplify wiring, especially in larger facilities. Panels also enable housekeeping and maintenance staff to benefit from reports of room status (occupied or vacant) and logs of energy usage.

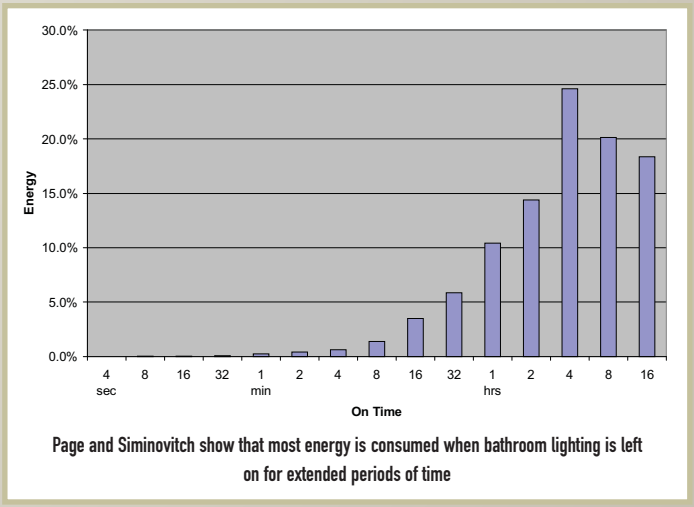
Integrating Miro dimmers in the lighting design can enhance guest comfort by enabling maximum control over room ambiance for every activity.

Studies illuminate significant energy saving opportunity

Whether it's to feel safer in an unfamiliar environment, or to provide a welcoming feeling when entering an empty room, many hotel guests leave bathroom lighting on for long periods of time, often to serve as a nightlight.

Studies show that hotel guest bathrooms offer one of the largest energy saving opportunities – eliminating unnecessary extended operation of the lighting. The studies also conclude that when the control solution includes provisions for nightlighting, such as solutions offered by Watt Stopper/Legrand, energy waste is prevented and guest satisfaction is improved.

- 75% of the energy used by guest bathroom lighting occurs when the lights are left on for longer than one hour [1, 2]
- 2 of every 5 guests leave bathroom lighting on if there are no nightlights, and an additional 16% of travelers bring their own nightlights to a hotel [3]



Page and Siminovitch show that most energy is consumed when bathroom lighting is left on for extended periods of time

1. E. Page, M. Siminovitch. 1999. Lighting Energy Savings Opportunities in Hotel Guestrooms, Berkeley, CA: Lawrence Berkeley National Laboratory

2. PIER Lighting Research Program. 2003. Performance Analysis of Hotel Lighting Control System, Sacramento, CA: California Energy Commission

3. From a 1999 survey by WRA Research, Omaha, NE, commissioned by Sleep Inn

Guest Bathroom

Achieve energy savings of 50% or more, lower your power bills and make your guests feel safe and secure by providing a nightlight and installing an occupancy sensor. The nightlight can be integral to the sensor or the vanity lighting.

WN Passive Infrared Nightlight Wall Switch Sensor

- Easily replaces standard wall switch for retrofit or new construction
- Manual-on with automatic-off when room is vacant
- Appropriate time delay prevents false offs, ensuring guest satisfaction
- Built-in super-bright LEDs provide ample nightlighting and draw just 5 Watts

HN Fixture Mount Nightlight Controller

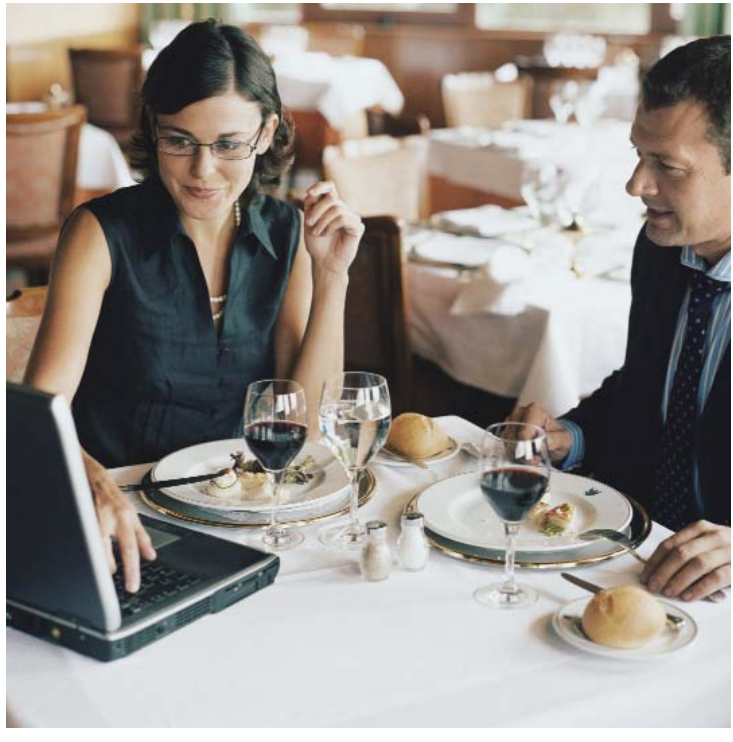
- Controller installs in a hotel vanity light with sensor below the fixture
- Includes LED nightlight above the fixture with battery backup
- Manual-on switch replaces the existing light switch
- Retrofits into existing lighting
- Can be specified as part of new, energy-efficient, bathroom fixtures to be provided by the manufacturer on an OEM basis

Restaurant

Hotel restaurants typically serve three meals a day and patrons expect a different ambience morning, noon and night. Advances in wireless lighting controls have made adding scene control capabilities to new and existing facilities simple and cost-effective.

Wireless Miro RF Lighting Controls

- Dimmers let managers set unique moods for each meal service
- Scene controllers provide one-touch control and repeatable looks
- Smooth fades and consistent light levels contribute to customer satisfaction
- Available in two elegant styles – architectural and decorator
- RF communications eliminate the need for control wiring
- Reduce wall clutter and put control where it's needed, such as at a maitre d' station
- Easy to specify and install for retrofits or new construction



Lobby/ Atrium

Hotel guests enjoy architectural design that brings the beauty of the surroundings into indoor spaces, providing a sense of openness along with the ambient daylight. Watt Stopper's controllers integrate the daylight available in spaces such as atriums and lobbies with the electric light, and reduce the amount of energy consumed by lighting.

LightSaver Daylighting Controllers

- Dim or switch controlled lights off when sufficient daylight is present
- Available for single- or multi-zone control
- Easily integrate with other controls, such as occupancy sensors and lighting control panels, for maximum energy savings

Public Restroom

Without automatic controls, lighting in public access restrooms is often left on 24 hours a day. An ideal solution is to install a Watt Stopper ultrasonic occupancy sensor on the ceiling above the restroom stalls ensuring that lights turn on and remain on when the space is occupied and turn off after the space is vacated.

UT Ultrasonic Occupancy Sensor

- New, low-profile design is unobtrusive and aesthetically pleasing
- Detects occupancy beyond most obstacles such as partitions between stalls

Meeting Rooms

Dimmers and scene controls that allow clients to customize the lighting in meeting and conference rooms add value, making the spaces more attractive for rental. Occupancy sensors ensure that theses spaces are only lit when they are in use, translating into reduced utility bills.

DT Dual Technology Occupancy Sensors

- Combine passive infrared and ultrasonic sensing technologies for increased sensitivity and coverage
- Ideal for large spaces
- Available in multiple mounting configurations, including corner mount
- Can be combined with standard wall switch for manual control

Wireless Miro RF Lighting Controls

- Dimmers enhance events and AV presentations
- Scene controllers simplify control and provide repeatable lighting
- Wireless design facilitates installation and control location
- Integrate with occupancy-based controls

Housekeeping Storage

Housekeepers with their hands full may neglect to turn off lighting in the many supply rooms scattered throughout a hospitality facility – after all, they don't pay the power bills. Providing occupancy-based controls in these rooms ensures energy savings and lets the staff work efficiently by automating the lighting control.

UT Ultrasonic Occupancy Sensor

- Automatic-on when personnel enter for hands-free convenience
- Automatic-off after personnel exit for maximum energy savings

Utility Rooms

Similar in usage patterns to housekeeping storage, utility room and other hotel storage room lighting is often left on all day when the space is only occupied intermittently. With floor to ceiling shelving, or other features unsuitable to occupancy sensors, these spaces are best controlled by time switches.

TS Digital Time Switch

- Easily replaces a standard wall switch for retrofit or new construction
- Automatic-off after a preset time (5 minutes to 12 hours)
- Convenient manual-on switch button – eliminates random energy consumption of rotary timers
- Electroluminscent backlit display shows the timer's countdown
- Time scroll feature allows user to temporarily override the preset time

Exterior Lighting

Exterior lighting is critical to guest safety and security, as well as to ambience, and represents a large component of a facility's energy use. Parking lots, garages, walkways, canopies, pool and patio areas all have different control requirements, but centralized control solutions ensure that lights are on when needed while preventing energy waste and maximizing savings.

LP "Peanut" Lighting Control Panels

- Provide automated control using scheduling or astronomic strategies
- Simple to operate and install
- Convenient preprogrammed control scenarios
- Can accept input from optional photosensors, occupancy sensors or switches

Back of the House

Hotel spaces that are used for operations present an enormous opportunity for energy savings, as lighting is often left on for long periods of time when these areas are not in use. Controls such as occupancy sensors and time switches can help to keep energy use and operating costs down.

Kitchens

Implement occupancy sensors in the kitchen areas. Lights will turn on and remain on as long as workers are present.

Hallways

Occupancy-based lighting control is also recommended for the back of the house hallways.

Cold storage

The CB low-temp occupancy sensor controls lights specifically in spaces such as cold storage.

Warehouse

Install passive infrared sensors in the warehouse to turn lights on and off automatically in specific areas such as shelving aisleways.

UT Ultrasonic Occupancy Sensor

CB Low Temperature Occupancy Sensor

CX Passive Infrared Ceiling/Wall Sensor

Business Offices

Not to be forgotten are the private offices occupied by hospitality executives and management staff. Why leave lights on in vacant offices when occupants are attending meetings or are elsewhere on the property?

PW Passive Infrared Wall Switch Sensor

- Easily replaces standard wall switches for retrofit or new construction
- Choice of automatic- or manual-on operation
- High sensitivity and dense coverage for exceptional performance

Isolé Power Strip with Personal Sensor

- Energy-saving control system for desktop plug load equipment such as monitors, printers and lamps

Open office plans can also benefit from controls. For comprehensive design and application guidance, consult Watt Stopper/Legrand's new "Best Practice Guide to Office Buildings," available as an e-Book online or from your sales representative.

Complete lighting control solutions for every building

Occupancy and Vacancy Controls | Daylighting Controls | Wireless RF Lighting Controls | Lighting Control Panels

Watt Stopper/Legrand Resources & Tools

CAD Resource Center

- Over 300 CAD drawings from which to choose
- Wiring diagrams you can place in your own CAD drawings
- Available at www.wattstopper.com

Support & Services

- Layout and design services
- Commission and start-up services
- District managers, trained representatives and experts available to answer all technical questions

Continuing Education

- Courses throughout North America qualify for AIA/CES Health, Safety and Welfare (HSW) credit and NCQLP Lighting Education Units (LEUs)
- In-person and on-line events
- Course selection available at www.wattstopper.com

Product Selection Guide

- Compilation of product ordering information, cut sheets, design and application assistance

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