Lighting Control Solutions for Parking Facilities
Parking Lighting Strategies for Optimal Performance

Historically, parking garage lighting was the last thought during building design and development. As such, lighting was not energy efficient, often requiring lights to switch to ON and stay ON 24/7. Now, by using LED fixtures and advanced lighting control technologies, lights can be turned ON, OFF or dimmed as required.

Lighting controls can include occupancy sensing, scheduling and even specific lighting levels based on ambient lighting and space requirements. Incorporating one or both lighting strategies (LED and controls) can help maximize energy savings.

New and existing parking garages are the perfect platform for incorporating the most current lighting technologies. By changing from fluorescent lighting to a more efficient LED parking lighting system improves the overall user experience. LED means more efficiency (typically 80% energy cost reduction), longer life (typically 50,000+ hours), lower maintenance due to longer life, low lumen depreciation rate, lighting uniformity, durability, and reduced light pollution due to directionality of source.

ENERGY EFFICIENCIES:
LED technology paired with lighting control strategies provide the opportunity to reduce energy and operating costs.

- LED fixtures reduce energy and operating costs
- Scheduling: Lights automatically turn OFF or are dimmed at certain times of the day or based on sunrise or sunset
- Occupancy/Vacancy Sensing: Lights automatically turn OFF or are dimmed when people vacate the space
- Multi-level Lighting/Dimming: Providing users one or more light levels other than full-ON and full-OFF
- Daylight Harvesting: Automatically adjust light levels based on the amount of daylight in the space

WIRELESS CONTROL
- Connect, commission and control lighting with Bluetooth Wireless Technology
- No control wires means lower installation cost
- Wireless mesh network extends range and provides reliability
- Commissioning and control through iOS smart phone app; no dedicated 3rd party device required

CONTROL ZONES:
- Integrate with additional building automation systems.
- Control Zones: Control zones boost energy efficiency and enhance safety
- Smooth visual adaptation between interior/exterior environments

SAFETY & SECURITY:
- Improve security by reducing shadows in dark corners
- Help drivers feel more in control with better visibility
- Enhance safety with Control Zones

Easy to Install & Connect
Commissioning & Control is Done Conveniently at Deck Level.
Save Energy & Reduce Maintenance Costs

Sustainability is the result of a simple action – reduce consumption. To achieve sustainability, every building owner must take into consideration initial fixture costs, maintenance costs, appearance and functionality. With energy regulation changes, Douglas makes it easy, by providing solutions which meet ASHRAE requirements. Utilizing rebates as well as state and local incentives can help rapidly pay the initial cost of the install.

Douglas Lighting Controls solutions put you in command of your lighting energy costs with a variety of products and control strategies.

- **Douglas Lighting Controls Bluetooth Wireless Solutions:** This system includes wireless fixture controllers, switches, and occupancy/daylight sensors all using Bluetooth® wireless technology.

- **Douglas Wireless Fixture Mount Sensor & Controller (FMS):** The Bluetooth Fixture Mount Sensor & Controller provides wireless communication, as well as occupancy/vacancy and daylight sensing all in one device. This automated system can communicate with other FMS for expandability within a parking garage.

- **Douglas Lighting Controls Commissioning and Control App:** Use your Bluetooth enabled iOS device to commission light levels, zones, pre-sets and time outs, and control lights and settings through the app.

- **Dialog® Centralized Lighting Control System:** Dialog is an advanced digital lighting control system connecting and controlling lights through relays, occupancy sensors, photo sensors, ballasts, and switch stations. All Dialog Centralized Control Systems are built project specific, factory programmed and tested in-house before shipping.

- **Diversa® Sensors:** Diversa Dual Technology sensors are easy to install and use while still being highly configurable for specific requirements and locations. Combining proprietary ADI-Voice technology with industry standard PIR sensing minimizes energy consumption and provides very accurate occupancy detection.

- **Universal EVERLINE LED Fixtures:** The popular EVERLINE family offers additional LED total solutions. Vapor Tight fixtures can be easily coupled with Douglas’ FMS Sensor & Controller. EVERLINE LED Wall Packs are perfect for stairwells and outdoor security. EVERLINE LED Sign Tubes and LED Chains can be used for outdoor signage.
The Complete Solution for Maximum Energy Savings & Control

**Top Deck & Exterior Lighting:**
LED Wall Packs provide instant light and various lumen options. Wall Pack solutions combined with occupancy and daylight harvesting sensors provide optimal illumination, enhancing safety and security while lowering energy costs.

**Stairwells & Elevator Areas:**
LED Wall Packs produce more light per consumed watt than HID models and are essentially maintenance-free due to their long life. LEDs are “instant on,” with no delay in achieving full light output during initial strike. Diversa Dual-Technology occupancy sensors automatically reduce power consumption when no one is present. Sensors can be configured to ON/OFF or HIGH/LOW based on occupancy. Both HIGH and LOW set points are individually adjustable.

**Indoor Signage:**
Like our outdoor lighting, LED signage provides the same or better illumination at a lower monthly energy cost. Use programmable “ON/OFF” option for even more control.
Parking Stalls & Driving Aisles:
The Dialog Bluetooth Wireless Integrated Controller & Sensor can be quickly and easily installed with EVERLINE LED Vapor Tight fixtures for ON/OFF or bi-level light functionality and daylight harvesting. The wireless controller is conveniently commissioned at deck level with the free smartphone app.

EVERLINE LED Retrofit Kits convert traditional fluorescent fixtures to LED lighting. The Kit includes everything needed for simple installation. LED Vapor Tight fixtures come in multiple sizes and are equipped with 0-10V dimming EVERLINE LED drivers.

Entry/Exit Points, Payment Areas & Outdoor Signage:
EVERLINE LED Sign Tubes and EVERLINE LED Chains offer energy efficient and reliable solutions for all outdoor signage.
The Flexibility & Scalability of Wireless

Douglas Lighting Controls’ Bluetooth wireless mesh technology provides reliability, redundancy, and expandability.

The Fixture Mount Sensor & Controller (FMS) provides automated individual and group control of light fixtures using onboard sensors and Bluetooth technology. It is easily installed for ON/OFF or bi-level light functionality. The daylight sensor provides additional energy savings by adjusting (0-10V dimming) the lights to work with the amount of natural daylight available in open-sided parking garages.

Configuration of the Douglas Lighting Controls FMS is done conveniently at deck level with the free smartphone app using Bluetooth protocol to communicate with the device. A Bluetooth mesh network is created between devices for control over a group of Douglas Lighting Controls Bluetooth FMS devices.

The FMS has a maximum vertical range of 40 feet and is powered from the fixture. It is IP65 rated for exterior use, and is tested to applicable UL and CSA standards enabling users to meet ASHRAE 90.1 and Title 24 energy code requirements. Once the devices are configured, the system will automatically operate to control lighting based on occupancy in the area and the system settings.

Increase Energy Savings
The addition of controls to a lighting system reduces your energy costs by providing the right amount of light when needed and turning off lights when appropriate either through schedules, commands or occupancy triggers. With the inclusion of wireless controls, Douglas Lighting Controls systems continue to provide reliability, security and advanced functionality, as well as energy savings, to meet the needs of facility operators.

Meet the Needs of More Projects
New or renovated parking structures are using lighting controls to reduce energy consumption. When adding controls into different areas of a building, running networked lighting control wires is not always feasible. Wireless controls provide a solution for adding lighting controls into these areas while providing a faster, easier, and cost effective installation and commissioning experience.

Save on Installation
Avoid running and connecting hardwired network communication to control devices to save time and money. Douglas Lighting Controls’ wireless devices each acts as a node to respond to commands or to pass on information across the network.

Make Commissioning Easier
The Plug ‘N Control® wireless lighting systems make commissioning easier. Plug in the devices, power them up and you have a functioning system. No addressing or networking set up needed. Then use the smartphone app to recognize fixtures and configure them for your precise needs.
**Control Zones & Payback**

*Enhance Safety & Efficiency with Control Zones*

Creating occupancy zones can help save cost and energy by only illuminating occupied spaces. Zone control is created through a combination of fixtures, controllers and sensors that respond as a group.

Tunable, programmable settings mean light will adjust automatically with the right amount of light at the right place and time.

| Zones of Control | are created at time of installation using a Bluetooth enabled iOS Commissioning Application. |

When triggered by an occupant, sensors in the same zone will turn ON.

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**Energy Consumption Reduced by 82%**

<table>
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<th>Demand (kW)</th>
<th>Energy (kWh)</th>
<th>Estimated O/M Cost Savings</th>
<th>Estimated Energy Cost Savings</th>
<th>Total Savings</th>
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<tr>
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</table>

*Data based on conversion to LED + lighting controls. Cost assumes $0.12/kWh utility rate. In this example, the client saw pay back in 7 years.*

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*Image of a mobile phone with a commissioning application and a graph showing energy consumption.*
Offering project-specific centralized, distributed, stand-alone and wireless solutions, Douglas Lighting Controls continues to be the lighting controls company for a wide variety of projects.

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