



# Outdoor Luminaire Controls Guide











# Experts in Outdoor Lighting and Controls Solutions

With over a century of experience in leading the lighting industry, brands like Holophane® and American Electric Lighting® can provide you the right luminaire for the right application, and ensure proper interoperability with Acuity Controls systems.

From stand-alone controls fully integrated into the design of the luminaire, to connectivity with more comprehensive networked systems, Holophane and AEL solutions combine durability and performance with long life and system interoperability. While the Dark to Light® brand sets the bar for the most reliable, state-of-the-art outdoor photocontrol solutions, the ROAM® brand offers a complete portfolio of networked control systems to provide sophisticated monitoring, diagnostics and scheduled control.

So regardless of your application, you can rest assured that Acuity Brands® can meet all your outdoor lighting and controls needs with solutions that reduce costs, enhance safety and simplify your life.





# Why Controls?

In today's world, lighting designers, engineers and facility managers have to do more with less. Shrinking budgets, expanding energy regulations and increased consumer demand require an outdoor lighting system that is simultaneously cost-effective and code-compliant, yet delivers a safe and secure environment.

A lighting strategy that incorporates more modern, efficient lighting with digital controls helps customers realize significant advantages over lighting-only options. Stand-alone, or component-based controls can provide significant energy savings and require little or no programming. System-based solutions link devices to control one or multiple spaces and offer a higher level of functionality than component controls.

### **Energy Management / ROI**

Applying lighting controls to unmanaged lighting saves 25% - 45% of the lighting energy in many spaces. Popular outdoor lighting control strategies for energy management include dimming, scheduling and monitoring. Lowering energy consumption through the use of controls also provides enhanced sustainability and significantly reduces the impact of the carbon footprint.

The right control strategy can also have a positive impact on a project's return on investment by not only reducing energy consumption, but also lowering maintenance costs and extending the life of new and existing luminaires. Proper use of controls can even enhance retail commerce by providing reliably lit commercial areas.

#### **Site-Wide Control**

Intelligent lighting controls simplify complex projects with graphical interface management of larger lighting systems. In many cases, the lighting control system can seamlessly connect to already-installed site automation systems. Proper use of these control systems can also provide simple steps to reduction of light trespass/pollution.

#### Safety

Monitoring and diagnostics in outdoor lighting spaces enables quick response to street lighting failures, virtually eliminating citizen and customer complaints, while helping to provide more rapid restoration of luminaire operation. Reliable, high quality lighting systems improve visibility in roadway and parking environments and is a proven deterrent to crime, especially around large business or education campuses.

#### Retrofitability

Deploying lighting controls in existing spaces can be simple and effective when the controls are designed for easy retrofit. Highly scalable solutions install with minimal changes to existing infrastructure and take advantage of technology to simplify reconfiguration.



# The Controls Evolution

From dusk to dawn to connected technologies, outdoor lighting controls is evolving like never before

For many years, outdoor lighting control was simplified with the stand-alone photocontrol providing dusk to dawn lighting. By utilizing the NEMA receptacle, fixtures were equipped with a standard way to implement a basic sensor. But as technology evolved, so did this basic sensor. The photocontrol became equipped with intelligence and communication abilities. This provided a greater understanding of how fixtures were performing, and gave us flexible control of the fixture. With a connected infrastructure, we saw firsthand the benefits of a world where data influenced our decisions, and sought to improve our lives.

Applying these same principles, the concepts of a Smart City were born. Data was collected from sensors, and communicated back to a central location for further insight into the space. But this was just the beginning. With the introduction of LED technology, lighting began to transform our spaces from illuminated areas to canopies of technology, lighting the way to a truly different future. With lighting, we have the right connection, in the right location, and at the right time to expand the boundaries of lighting.

As this evolution continues, Acuity Brands has a breadth of products to meet you in your journey. No matter if you are still focused on basic dusk to dawn lighting, connected technologies, or something in between, our product lines support your timeline. By designing products that utilize the industry standard NEMA receptacle, we position you to invest at your pace, and reap the benefits that are best suited to your needs.





DTL provides high-quality, cost-effective electronic photocontrols to utility, municipal and commercial customers. DTL has products to cover all applications, including roadway, area lighting, floodlights, security and residential.

#### **LED Photocontrols**





Standard

Low Profile

#### **DLL Elite**

With a 20-year design life for LED applications, the DLL Elite offers inrush current protection utilizing a TRIAC assisted relay and best-in-class surge protection.

#### **Remote Control Photocontrols**



DCC DCR

#### Connect Series (DCC & DCR)

An ideal choice for utility security lighting applications, the Connect Series LED photocontrol allows customer to enable and disable area lights with the touch of a button.

#### **Premium Non-LED Photocontrols**





**DP** Series

**DE Series** 

#### **DP and DE Series**

DP Series photocontrols utilize premium components and drift resistant silicon light sensors while the DE Series adds an infrared-blocking filter for consistent turn-on over the life of the control.





## Outdoor Lighting Motion Sensors

By utilizing Passive Infrared (PIR) technology, Sensor Switch® outdoor motion sensors can be used to automatically adjust fixture dim levels. Operations such as on-off or high-low can be created in a stand-alone sensor (SBOR Series) or paired with a networked lighting control node (SBO Series).

**SBOR Series** is a line voltage motion sensor with integrated switching (built-in relay), photocell and dimming control. It is designed for stand-alone programming and operation.

**SBO Series** is a low voltage motion sensor commonly used in conjunction with dimming driver enabled fixtures and networked controls.

# Networked Outdoor Lighting Controls



**ROAM®** is a wireless outdoor lighting management system that helps minimize maintenance costs, optimize energy use and provide an improved nighttime environment.

# wireless radio cellular or ethernet Nodes Gateway Network Customer Portal

**Operations Center** 

#### Features:

- + LED Dimming Capable
- + Precise Fixture Location
- + Metered Energy Consumption
- + Work Order Management

#### Benefits:

- + Monitor Fixture Performance
- + Remotely Control & Schedule
- + Diagnose Failures
- + Improve Maintenance

# Networked Outdoor Lighting Controls — DTL

The DTL DSN solution combines the reliability of the DLL Elite photocontrol, designed for 20-year operating life, with the performance of the Itron network platform for unparalleled functionality and adaptive control of street lighting systems.

- + Superior TRIAC based inrush protection
- + Superior surge protection
- + Revenue–grade metering with infrared pulse interface
- + 7-PIN node with 24V DC power for pins 6-7
- + Available in 120-277 Volts, 347 Volt and 480 Volt
- + 0-10V & DALI dimming, With or without GPS





#### ADVANCED DASHBOARD



**INTUITIVE DIAGNOSTICS** 



**REAL-TIME CONTROL** 

# Streetlight Vision for Smart Streetlights and Smart City Sensors

The DTL DSN utilizes Streetlight Vision, an innovative central management software (CMS) from Itron Networked Solutions.

# Highlights of Streetlight Vision and the Itron ready Network Platform

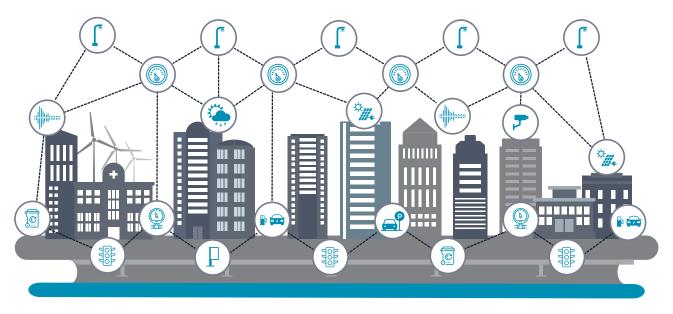
- + Advanced lighting management
- + Controls multiple Smart City sensor devices
- + Open APIs (application program interface) and developer program







GRANULAR CONTROL
PROGRAMS & SCHEDULING









Environme



Acou

ic Wo

Water & Gas T.

Traffic Lights 1 & Controls

ectric Vehicle







**With the DTL DSN solution**, you now have access to a multi-application platform, providing one network for critical infrastructure solutions like smart lighting, smart metering and other outdoor IoT technologies.

#### **ONE NETWORK**

For Streetlights and Smart City Infrastructure



#### **MAINTAINED**

24x7 Monitoring and Service Level Agreements



### **DELIVERED**

A Smart City Platform to Harness the Power of IoT Sensor Data

# Why choose the DTL DSN solution powered by the Itron network platform?

**PROVEN:** Access a robust network supporting over 27 million devices combined with world-class LED photocontrol technology.

**SECURE:** Protect your most sensitive data with secure AES 256-bit encryption and multi-layer protection with continuous security monitoring.

FAST: Deliver real-time, actionable data for business-critical needs.

**FLEXIBLE:** Leverage one system capable of connecting multiple smart city devices and applications.

**FUTURE ORIENTED:** Obtain data through open APIs to enable future application development.

#### Ready to build a smart network?

Acuity Brands is a certified Itron partner and can provide the complete solution.

# Already have the Itron network (formerly Silver Spring Networks)?

We are a certified partner with equipment to integrate with existing networks.







# Each of Our Outdoor LED Luminaire and Control Solutions Offer Some or All of These Important Features

| Feat                              | ure                               | Explanation   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------|---|--|--|--|--|--|--|
| ECT                               | Field Adjustable Output Module    | Onboard device that adjusts the light output and input wattage to meet site specific requirements, allowing a single fixture configuration to be flexibly applied in many different applications. |  |  |  |  |  |  |
|                                   | Premium Solid State Photocontrols | Premium Dark to Light, Solid State approved, NEMA locking style photocontrol.   |  |  |  |  |  |  |
|                                   | Occupancy Sensor                  | 100% digital Passive Infrared (PIR) detector.   |  |  |  |  |  |  |
| ND PRO                            | Dimming Driver                    | Fixture is supplied with a 0-10V dimmable driver.   |  |  |  |  |  |  |
| TEND AI                           | Night Trimming                    | Trimming light levels at the beginning and ending of the dusk to dawn cycle to reduce energy consumption.   |  |  |  |  |  |  |
| REDUCE ENERGY, EXTEND AND PROTECT | Multi-Level Dimming               | The ability to provide at least a minimum of two light levels as part of a designated control scheme.   |  |  |  |  |  |  |
| CE ENEI                           | DALI                              | Fixture supplied with a DALI dimmable driver (Digital Addressable Lighting Interface)   |  |  |  |  |  |  |
| REDU                              | Remote Dimming                    | Wireless adaptive technologies from Acuity Brands allow for full control of luminaire operation and variable light output.  |  |  |  |  |  |  |
|                                   | Monitoring & Diagnostics          | Wireless monitoring and diagnostic capabilities allowing you to monitor and log operational performance data and rapidly identify non-functional lighting.  |  |  |  |  |  |  |
|                                   | Local Remote On/Off               | The ability to turn the luminaire off and on using a DTL Connect Services hand-held remote control.   |  |  |  |  |  |  |
|                                   | Lighting Zones                    | The configuration of an individual or multiple luminaire's controls that respond in unison. The control will turn on, off, dim or adjust light levels based on the program.                       |  |  |  |  |  |  |

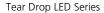
# Architectural Lighting Tear Drop & Granville II LED

The Holophane and AEL brands offer a wide variety of Architectural Outdoor LED luminaires that are compatible with Acuity Brands controls solutions.











GranVille® II LED



Washington Postlite® Series LED



Hartsfield LED



Contempo Series 245L LED



Lantern Post Top LED



Full Cutoff LED Series



247L LED Series



**AVPL2 LED Series** 



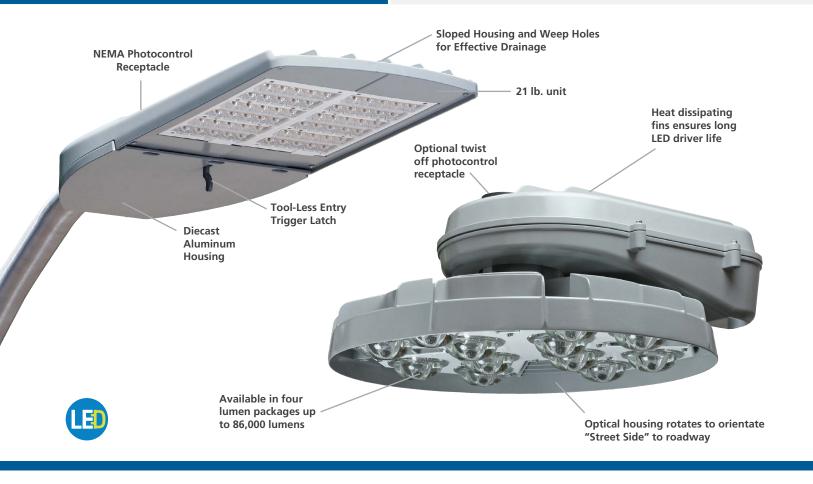
ARDL LED Series



GlasWerks® LED Series

# Infrastructure Lighting ATB2 LED & HMAO LED III

Outdoor Infrastructure lighting solutions from Acuity Brands combine controls with the industry's best luminaires for roadway, flood, security and specialty applications.









Autobahn LED ATBO, ATB2 & ATBMIC



Autobahn LED ATBL, ATBM & ATBS



WatchLight LED



LNH2 Series



Parkpak® LED



HMAO™ LED III



Wallpack® LED



Wallpack® LED Full Cutoff



Floodlight LED (ACP & Predator®)



TunnelPass LED™ Large & Medium

# Product Matrix - Infrastructure Lighting

| LUMINAIRES                   | FIELD<br>ADJUSTABLE<br>OUTPUT<br>MODULE | PREMIUM<br>SOLID STATE<br>PHOTO<br>CONTROLS | OCCUPANCY<br>SENSOR | DIMMING<br>DRIVER | NIGHT<br>TRIMMING | MULTI-<br>LEVEL<br>DIMMING | DALI     | REMOTE<br>DIMMING | MONITORING & DIAGNOSTICS | LOCAL<br>REMOTE<br>ON/OFF |
|------------------------------|---|---|---------------------|-------------------|-------------------|----------------------------|----------|-------------------|--------------------------|---------------------------|
| Autobahn LED<br>- ATB2       | AO                                      | PCSS<br>PCLL                                | <b>©</b>            | DM                | P7                | ML                         | <b>©</b> | P7                | P7                       | PCCC                      |
| Autobahn LED<br>- ATB0       | AO                                      | PCSS<br>PCLL                                | <b>©</b>            | DM                | P7                | ML                         | •        | P7                | P7                       | PCCC                      |
| Autobahn LED<br>- ATB Micro  | AO                                      | PCSS<br>PCLL                                | <b>©</b>            | DM                | P7                | ML                         | <b>©</b> | P7                | P7                       | PCCC                      |
| Autobahn LED<br>- ATBS       | AO                                      | PCSS<br>PCLL                                | <b>©</b>            | DM                | P7                |                            | •        | P7                | P7                       | PCCC                      |
| Autobahn LED<br>- ATBM       | AO                                      | PCSS<br>PCLL                                | <b>©</b>            | DM                | P7                |                            | •        | P7                | P7                       | PCCC                      |
| Autobahn LED<br>- ATBL       | AO                                      | PCSS<br>PCLL                                | <b>©</b>            | DM                | P7                |                            | •        | P7                | P7                       | PCCC                      |
| Mongoose LED                 |   | PCSS  | <b>©</b>            | DM                | P7                | ML                         | •        | P7                | P7                       | PCCC                      |
| LED Nema<br>Head Series LNH2 | AO                                      | PCSS<br>PCLL                                |                     |                   | P7                |                            | <b>©</b> | P7                | P7                       | PCCC                      |
| Watch Light LED              |   | PCSS<br>PCLL                                |                     |                   | P7                |                            | •        | P7                | P7                       | PCCC                      |

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Occupancy sensor must be installed externally on pole.

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|---------------------------------|---|---|---------------------|-------------------|-------------------|----------------------------|------|-------------------|--------------------------|---------------------------|-------------------|
| HMAO LED III                    |   | PCSS<br>PCLL<br>P34<br>P48                  | <b>©</b>            | STANDARD          |                   | <b>©</b>                   | ٥    | P7                | P7                       | PCCC                      |                   |
| Floodlight LED (ACP & Predator) |   | PCLL  |                     | DM                | P7                |                            | •    | P7                | P7                       | PCCC                      |                   |
| TunnelPass LED                  |   |   |                     | DM                | •                 | •                          | •    | <b>©</b>          | ٥                        |                           |                   |
| TunnelPass LED<br>Medium        |   |   |                     | DM                | <b>©</b>          | <b>©</b>                   | •    | <b>©</b>          | ٥                        |                           | ICMNYX<br>ICMECH  |
| Wallpack LED<br>W4GLED          | AO                                      | P7  |                     | STANDARD          | P7                |                            |      | P7                | P7                       | PCCC                      |                   |
| Wallpack LED W4PLED             |   |   |                     | STANDARD          |                   |                            | •    |                   |                          |                           |                   |
| Wallpack<br>FCO LED             | AO                                      | PCLL & P7<br>MASL<br>MASH                   | MASL<br>MASH        | STANDARD          | PND               |                            | •    | P7                | P7                       | PCCC                      |                   |
| Parkpak LED                     | AO                                      | MASL<br>MASH                                | MASL<br>MASH        | STANDARD          |                   |                            |      |                   |                          |                           | XPOINT            |

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# Product Matrix - Architectural Lighting

| LUMINAIRES                   | PREMIUM<br>SOLID STATE<br>PHOTO –<br>CONTROLS | OCCUPANCY<br>SENSOR | DIMMING<br>DRIVER | DALI     | NIGHT<br>TRIMMING | REMOTE<br>DIMMING | MONITORING &<br>DIAGNOSTICS |
|------------------------------|---|---------------------|-------------------|----------|-------------------|-------------------|-----------------------------|
| Pedestrian<br>Tear Drop LED  | PCS<br>P34<br>P48<br>PCLL                     | ٥                   | FPDXX             | <b>©</b> | P7E<br>DE<br>PND  | P7E<br>DE         | P7E<br>DE                   |
| Tear Drop LED II             | PCS<br>P34<br>P48<br>PCLL                     | <b>©</b>            | FPDXX             | <b>©</b> | P7E<br>DE<br>PND  | P7E<br>DE         | P7E<br>DE                   |
| GranVille II LED             | PCS<br>P34<br>P48<br>PCLL                     | ٥                   | FPDXX             | <b>©</b> | DE<br>PND         | DE                | DE                          |
| Washington<br>Glass LED      | PCS<br>P34<br>P48<br>PCLL                     | <b>©</b>            | FPDXX             | ٥        | DE<br>PND         | DE                | DE                          |
| Washington<br>Acrylic II LED | PCS<br>P34<br>P48<br>PCLL                     | ٥                   | FPDXX             | ٥        | DE<br>PND         | DE                | DE                          |
| Utility<br>Arlington LED     | PCS<br>P34<br>P48<br>PCLL                     | ٥                   | FPDXX             | <b>©</b> | P7E<br>DE<br>PND  | P7E<br>DE         | P7E<br>DE                   |
| Utility<br>Postop LED        | PCS<br>P34<br>P48<br>PCLL                     | ٠                   | FPDXX             | <b>©</b> | P7E<br>DE<br>PND  | P7E<br>DE         | P7E<br>DE                   |
| Utility<br>Jefferson LED     | PCS<br>P34<br>P48<br>PCLL                     | ٥                   | FPDXX             | <b>©</b> | P7E<br>DE<br>PND  | P7E<br>DE         | P7E<br>DE                   |

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|-------------------------------|---|---------------------|-------------------|----------|-------------------|-------------------|--------------------------|
| 245L LED                      | PCLL<br>PCSS                                  | <b>©</b>            | DM                | <b>©</b> | P7                | Р7                | Р7                       |
| Hartstfield<br>HTFL Series    | P34<br>P48<br>PCSS<br>PCLL                    | <b>©</b>            | DM                | <b>©</b> | P7                | P7                | P7                       |
| Full Cutoff<br>Utility Series | PCS<br>P34<br>P48                             | <b>©</b>            | FPDXX             | <b>©</b> |                   | DE<br>P7E         | DE<br>P7E                |
| 247L Series                   | PCLL  | <b>©</b>            | DM                | <b>©</b> | P7                | P7                | Р7                       |
| AVPL2 Series                  | PCLL  | <b>©</b>            | DM                | <b>©</b> | P7                | Р7                | Р7                       |
| ARDL Series                   | PCLL  | <b>©</b>            | DM                | <b>©</b> | P7                | P7                | Р7                       |
| GlasWerks<br>LED Series       | PCS<br>P34<br>P48                             | <b>©</b>            | FPDXX             | <b>©</b> | P7E<br>DE<br>PND  | P7E<br>DE         | P7E<br>DE                |

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#### **Acuity Brands Lighting, Inc.**

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Holophane, S.A. de C.V., Km. 31 Carretera Mexico-Cuautitlan 54900 Tultitlan Edo. De Mexico

Contact your local Holophane factory sales representative for application assistance, and computer-aided design and cost studies. For information on other Holophane products and systems, call the Inside Sales Service Department at 866-759-1577. In Canada call 905-886-8967 or fax 905-886-7973.

**Warranty** Five-year limited warranty. Full warranty terms located at www.acuitybrands.com/CustomerResources/ Terms\_and\_conditions.aspx

### Visit our web site at www.holophane.com

Product specifications may change without notice. Please contact your local Holophane factory sales representative for the latest product information.





