

Automate Lighting Sustainability Analytics with Appleton™ Connected Lighting



Application

In facilities with harsh and hazardous environments, increasing focus on total energy consumption and improving the sustainability of operations requires taking a new look at existing electrical systems.

One key source of energy consumption and maintenance is lighting. Traditional HID lighting costs are significant, due to inefficiency, lamp replacement, and maintenance. These costs multiply when up to 5000 luminaires are installed in mid-size processing facilities.

Challenges

Plant managers and sustainability officers are now challenged to reduce carbon footprints. Traditionally, conducting an on site energy audit is the first step to finding where and when energy is being consumed. LED lighting has been shown as a proven solution to reduce energy consumption, but for facilities with a large number of luminaires, lighting can still consume large amounts of energy. For harsh and hazardous locations, assessing future maintenance needs and frequency of use are the next enhancements to improve lighting system efficiency.

Many harsh and hazardous locations are infrequently visited by maintenance teams. The industry trend is to increase remote monitoring of assets and limit access of plant personnel for safety. Adding controls to reduce lighting output when no personnel are present can also reduce the

energy consumption of lighting, while extending the life of the fixture and reducing overall maintenance. In addition, analytics from remote monitoring of the lighting system can assist with proactive maintenance and easily calculate long-term energy consumption.

Solution

Appleton's Connected Lighting ecosystem by Emerson is a new approach to energy sustainability for harsh and hazardous locations. The combination of Appleton's Mercmaster™ Connect LED Luminaires and Plantweb™ Insight's Connected Lighting application creates an end to end solution for optimizing, monitoring, and analyzing lighting performance. Mercmaster Connect's integrated motion and illuminance sensors with WirelessHART® connectivity detect when operators are in the area and dim after operators exit the location.

Sustainability officers no longer need to manually estimate energy usage of lighting controls. Plantweb Insight's commissioning and analytical capabilities enhance Connected Lighting by calculating up to one year of energy analytics of the Mercmaster Connect LED Luminaire. Users also have access to historical energy consumption graphs and other energy and sustainability analytics, including calculated carbon dioxide emissions.

Contact Emerson today to learn more about Connected Lighting.

Connected Lighting

Appleton Mercmaster Connect LED Luminaires are available in a wide range of lumen outputs, color temperatures, light distribution patterns, globe selections, and input voltages to optimize lighting performance in harsh and hazardous locations.

Mercmaster Connect's integrated occupancy sensor detects movement from up to 40 feet away, and will turn on automatically. Plant supervisors and electricians can now tune the light levels and add simple time-based controls for groups of luminaires throughout their facility from the control room.

Simplify light commissioning and grouping with a straightforward interface by adding luminaires into any combination of functional groups. Custom schedules, light levels, and controls ensure plant personnel never enter a dark area, while keeping energy costs low and reducing luminaire operating time.



Mercmaster Connect LED Luminaire

CATALOG ORDERING GUIDE

MGC	A	N	Z	N	D	S	BU	F	Z	N
Series: MGC - Mercmaster Connect LED Class 1, Division 2 and Zone 2	Mounting: A - Pendant B - Watertight Pendant ▲ C - Ceiling © D - Pendant Cone © R - 90° Stanchion ① S - 25° Stanchion ① T - Trunnion K - Killark™ ⇄ Adapter Universal ▲ U - Mercmaster II Adapter, Ceiling or Pendant ▲ V - Mercmaster II Adapter, Stanchion or Wall ▲ W - Wall X - Crouse Hinds™ ⇄ Adapter, Ceiling or Pendant ▲ Y - Crouse Hinds™ Adapter, Stanchion or Wall ▲ Blank - No mounting hood	Hub Size: 2 - 3/4" NPT 3 - 1" NPT 4 - 1-1/4" NPT stanchion 5 - 1-1/2" NPT stanchion 6 - Metric M20 Blank - If using adapter or no hood	Color Temperature: ‡ C - Cool (5000K CCT) N - Neutral (4000K CCT) W - Warm (3000K CCT) M - Mid Neutral (4500K CCT) R - Mid-Warm (retail) (3500K CCT)	Light Distribution Pattern: 1 - Type I 3 - Type III 5 - Type V W - Type V Wide	Voltage: BU - 120-277 Vac, 50/60 Hz; or 125-300 Vdc	Control Options: 7 - Motion and Illuminance Sensor, WirelessHart Interface	PIR Fresnel Lens: N - Between 20 to 40 ft mounting height P - Below 20 ft mounting height	Lumen (nominal): L5 - Up to 5500 L9 - Up to 9500 H6 - Up to 17500	Globe Material: P - Clear Polycarbonate Globe D - Diffused Polycarbonate Globe G - Clear Glass Globe	Options: ⌘ F - Fusing Blank - No fusing

‡ Other CCT options available upon request. Contact your local sales representative for more information.

▲ Adapters and watertight pendant hood only certified for NEC/CEC.

⇄ Killark is a registered trademark of Hubbell Incorporated.

⇄ Crouse-Hinds is a registered trademarks of Cooper Industries.

⌘ Fusing only permitted for cCSAus rating. Factory installed. Use of fuse voids Marine Outside Type (Salt Water) rating. Fusing is mounted in the driver housing.

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