CROUSE-HINDS SERIES



Market segment
Chemical processing

Location
BASF, firewater diesel storage
Geismar, LA

Challenge
24/7 workplace with hazardous area classifications required lighting expansion while addressing customer priorities of safety, reliability, cost and uptime.

Solution
Champ LED Intelligent light fixtures with Brightlayer Lighting software

Results[1]

65% total energy cost savings

1,220 TONS potential reduction in CO_2 emissions[2]

14.5 HOURS daily runtime decrease

WORLD CLASS cybersecurity standards

1. Modeled results for BASF. Actual results may vary in other installations.
2. Based on a typical installation of 2,000 fixtures.

Eaton's Champ Intelligent Lighting helps increase safety, improve productivity and reduce cost of ownership.

Background

BASF, a global chemical company, approached Eaton with a request to update their existing lighting fixture installments in their Geismar, LA, facility. Their firewater diesel storage area had existing lighting, but it was fed from a panel that did not have a lighting contactor or photocell. This resulted in the lights running at full brightness 24 hours per day.

Eaton presented the Champ VMVL LED Intelligent Lighting control system to M. Lee Perry, Jr., Electrical Design Engineer, BASF, to help address his concerns.

BASF expressed interest in the intelligent lighting option and needed to understand the cost and security of the system before proceeding with an expanded lighting installation.

"Sustainability is at the core of our business, so finding a way to control our light usage in our facility was very important."

-M. Lee Perry, Jr., Electrical Design Engineer, BASF



EATON
Powering Business Worldwide

To learn more about the research and technology behind Champ Intelligent Lighting, read our article published in IEEE and presented at the 2024 IEEE IAS Petroleum and Chemical Industry Committee (PCIC) Conference.

Challenge

Reliable lighting is a critical aspect of workplace safety and productivity. Lighting systems must provide high visibility while minimizing shadows and glare to help create a safe and productive work environment for employees.

In a chemical plant, unique challenges such as the potential for extreme temperatures, humidity, corrosion, dust and hard to reach and maintain areas needed to be considered. Each of these factors could severely impact the lifetime and performance of the light fixtures and potentially increase the amount of maintenance.

To achieve their cost and safety goals, BASF needed a lighting solution that could provide reliable lighting in harsh and hazardous classified areas while optimizing energy usage to minimize expenses.

Solution

Eaton presented the Champ VMVL LED Intelligent light fixture and Birghtlayer Lighting software as the ideal solution. Together, they provided BASF with the ability to easily and securely manage their lighting setup with features such as intelligent scheduling, occupancy sensing, and daylight harvesting.

Champ fixtures are designed for reliable performance and backed by Eaton's 100+ year legacy of reliability and safety in harsh and hazardous classified areas. The Champ VMVL fixture met the NEC Division and Class requirements that existed at the BASF fire water and diesel storage area.

Brightlayer Lighting software, which is supported by Eaton's Cybersecurity Center of Excellence, adheres to strict security standards** and helped to address BASF's need for secure and reliable fixture management. Additionally, Brightlayer Lighting connects directly to Champ Intelligent light fixtures without the expense and complexity of separate gateway hardware.

With intelligent scheduling, BASF was able to dramatically reduce unnecessary light usage. The lights now operate on a schedule and the intelligent sensor ensures that the lights maintain a safe level of illumination anytime occupancy is detected. Brightlayer Lighting software allows BASF to easily set and modify their lighting schedule based on shift times and the needs of their operation.

Along with reducing energy usage and C02 emissions, intelligent scheduling can extend the life of each fixture up to twice as long, allowing BASF to realize immediate energy savings and minimize potential repair and replacement costs in the future.

Champ Intelligent Lighting is helping BASF achieve*...

65%
total energy cost savings vs non-intelligent lighting

1,220 TONS
potential reduction in CO2 emissions per year for a typical 2,000 fixture installation

14.5 HOURS
daily runtime decrease

WORLD CLASS CYBERSECURITY
backed by Eaton's Cybersecurity Center of Excellence

...and many other benefits.

Workplace safety

- Fixtures that provide reliable illumination in their hazardous classified environment
- Real-time insights allow proactive measures to be taken to ensure timely replacement of damaged or non-functional lighting

Reliable fixtures to maintain uptime

- Eliminate 24/7 always on lighting with intelligent scheduling
- Preventative and predictive maintenance to help reduce downtime

Lower cost of ownership

- Minimal capital investment needed to install, commission and control light fixtures
- Intelligent lighting can provide significant energy and maintenance cost savings

"We are very pleased with the energy cost and CO2 savings we have seen to date and are exploring Champ Intelligent Lighting for other areas of our facilities."

-M. Lee Perry, Jr., Electrical Design Engineer, BASF

* *Modeled results for BASF. Actual results may vary in other installations.*

** *For more information, download our Champ Intelligent Lighting Cybersecurity flyer*

For more information, visit
Eaton.com/intelligent-lighting

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