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# Electrical

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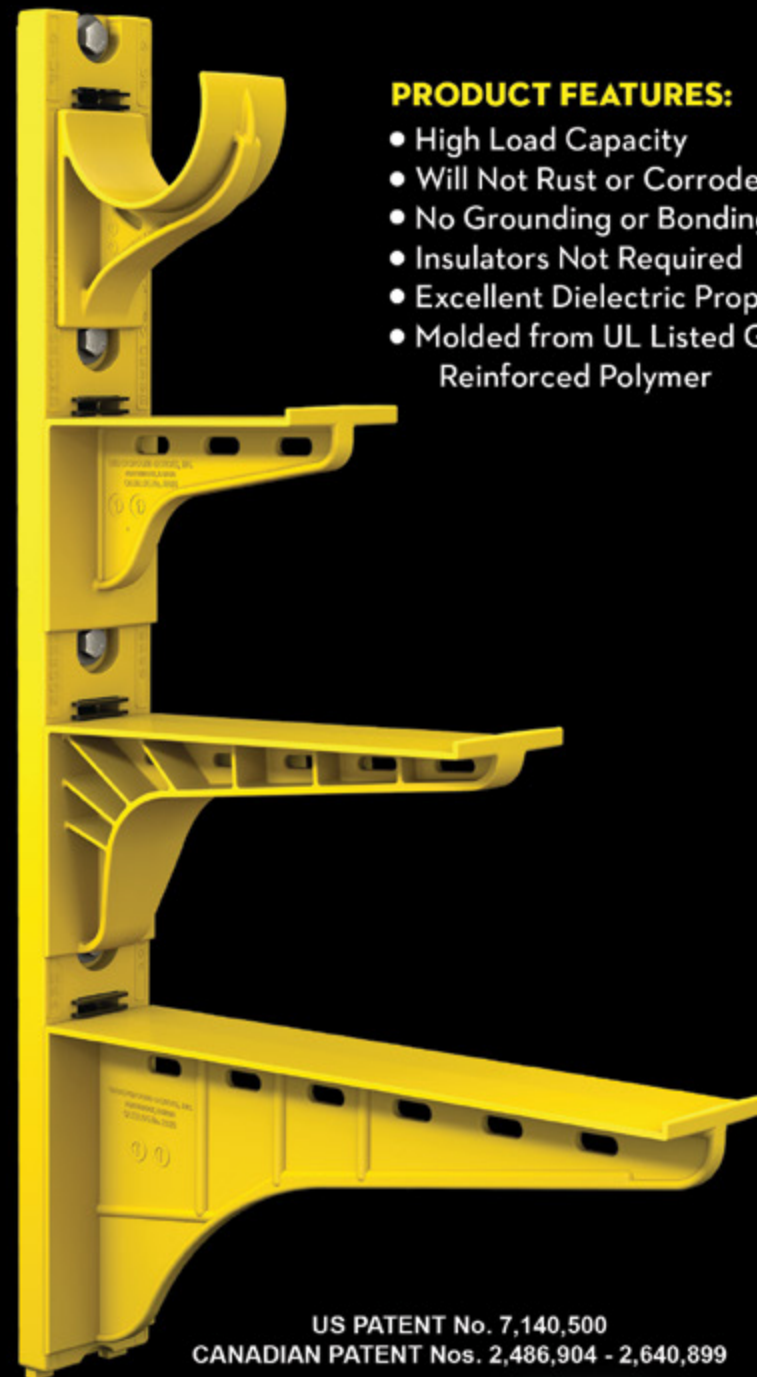
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ON THE COVER

Photo courtesy of All Seasons Uniforms



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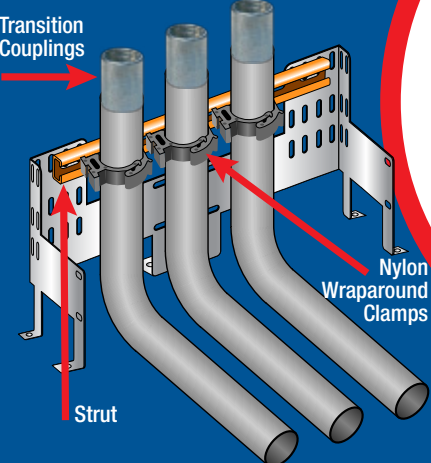
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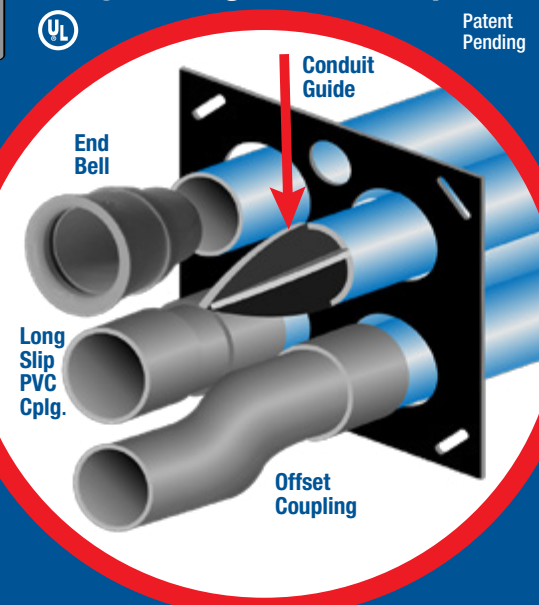
Join two EZ Stub-Ups with strut to support and secure multiple stub-ups on wooden forms before concrete pour for sizes 1/2", 3/4", 1" & 1-1/4" stub-ups with SP's Nylon Support Brackets and transition to RGB with our transition couplings.



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IP3c**

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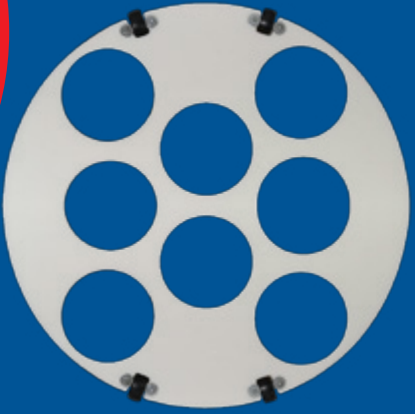
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# Protect Yourself

## Miller Safety Consultants — A Leader in Arc Flash Protection

Vince Miller started Miller Safety Consultants, a veteran owned business in 1999. The goal of the business was to provide cost effective safety consulting, employee training such as: confined space entry, fall protection, electrical safety and provide sales of electrical shock and flash protective equipment and fall protection equipment to businesses in the Washington DC area.

Reliance Industries provided fall protection products and much of the sales and training was on behalf of the supplier. In 2000, the owner decided to retire from his business, and Vince decided to discontinue the fall protection line of his business and concentrate more in the electrical training and products.

Vince had been a distributor for Certified Insulated Products (CIP), a manufacturer of electrical insulated tools and electrical arc flash clothing manufactured by Otex in Rochester, New York. As a distributor, Vince provided sales through his internet website and much through relationships with electrical contractors. His training was a classroom environment and was provided directly to customers but he also taught as a sub-contractor for other safety consulting companies and the

Chesapeake Safety Council in Baltimore, Maryland. In 2005, Vince partnered with Vivid Learning Systems in Cascades, Washington to provide on-line training in safe work practices.

Training in electrical safe work practices is still provided locally in the Washington DC area and as a partner with an electrical engineering firm and online. The training is based on the Occupational Health and Safety Administration (OSHA) standards and the National Fire Protection Association (NFPA) 70E standard.

Miller Safety Consultants is now a distributor for Cementex USA, Burlington, New Jersey, for insulated tools and equipment and clothing from OTEX Protective, Rochester, New York.

The majority of his sales of products

are from the web-based store. Cementex is nationally known for their quality equipment. Otex Protective is becoming more known for their quality clothing. For years, they have manufactured their products under other provider labels. Vince chose to not create his clothing line, but to sell the manufacturer product.

Vince has worked with many electrical company employees to fine-tune the clothing to be more comfortable for the user. Working closely with the manufacturer, they have made slight changes in how the cloth pattern was modified to meet final production. An example is the lightweight 40 Calorie vented hood offered by Otex.

The material is of the latest technology. The vented assembly is constructed for balance on the back of the hardhat and the airflow is 27 CFM to prevent fogging of the face shield and provide cooling to the worker. It took over a year to develop the product with the user prior to having the hood "flash tested". This product is now standard issue with many electrical contractors.

Being a small business and having quality providers has resulted in satisfied customers for Miller Safety Consultants. Being a direct supplier for OTEX Protective, another small business means customized customer needs can be met. □

For more information, visit  
Miller Safety Consultants at:  
[www.electricalsafetyproducts.com](http://www.electricalsafetyproducts.com), email  
Vince at: [sales@millersafetyltd.com](mailto:sales@millersafetyltd.com).

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# THE ESSENTIAL PPE CHECKLIST FOR ELECTRICAL WORKERS: WHAT YOU NEED TO KNOW

BY NICK WARRICK

**AMONG THE MOST AT-RISK WORKERS** in our service industries are those who work with electricity. The Electrical Safety Foundation reports 1322 fatalities between 2011 and 2022 with 3% of these deaths directly due to inadequate PPE.





The Occupational Safety and Health Administration (OSHA) list the main hazards that electrical workers face as including “contact with power lines, lack of ground-fault protection, path to ground missing or discontinuous, equipment not used in manner prescribed, and improper use of extension and flexible cords.”

With such a varied slate of dangers, many of which don’t fall under the purview of individual workers, it is imperative that electrical employees do everything they can to protect themselves. Electrical PPE is a major part of that picture.

**Understanding the Importance of Personal Protective Equipment (PPE) in Electrical Work (H2)**

Ensuring the safety of electrical workers is paramount due to the high-risk nature of their job. There are approximately 70,000 firms employing over 650,000 electrical workers in the

USA. That’s a significant workforce to safeguard.

Personal protective equipment (PPE) is a critical component in safeguarding these workers from potential hazards such as electric shocks, burns, abrasion, and other injuries.

Proper use of PPE not only complies with safety regulations but also significantly reduces the likelihood of accidents while enhancing overall workplace safety.

Furthermore, following strict safety protocols, including PPE requirements, increases the confidence of new trainees. Such individuals may be working in situations with multiple risk factors, such as the engineers who install and repair overhead power lines.

**Common Risks and Hazards Faced by Electrical Workers (H2)**

Let’s look at the dangers faced by electrical workers in more details. Such employees encounter numerous hazards in their daily tasks, including:

- **Electric Shock:** Direct contact with live electrical components can cause severe or fatal injuries.
- **Arc Flash:** A sudden release of electrical energy through the air can result in serious burns.
- **Thermal Burns:** Exposure to high temperatures from electrical faults.
- **Fire:** Sparks from electrical faults can ignite flammable materials, resulting in burns or injuries from smoke inhalation.
- **Explosions:** Electrical malfunctions can cause explosions, particularly in environments with combustible materials.
- **Falls:** Electrical engineers working at height may be injured from falls as a secondary effect of receiving shocks.

Understanding these risks underscores the need for comprehensive protective measures.

**PPE Requirements for Electrical Workers (H3)**

PPE designed for use in electrified

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environments has several highly specific requirements, as outlined below.

- **Insulation:** PPE such as gloves, tools, and footwear are designed with insulating materials to prevent electrical conductivity and protect against electric shocks.
- **Arc Flash Resistance:** Clothing and face protection can be designed to withstand the intense heat and light produced by an arc flash, reducing the risk of burns.
- **Flame Resistance:** PPE materials are inherently flame-resistant or treated to resist ignition and prevent the spread of flames.
- **Dielectric Properties:** Equipment like rubber gloves and insulating blankets are tested for dielectric properties to ensure they can withstand specific voltages without breaking down.
- **Durability:** Electrical PPE is designed to be durable and withstand the wear and tear associated with the electrical work environment, including exposure to oils, chemicals, and abrasion.
- **Visibility and Identification:** Many electrical PPE items are brightly colored or include reflective materials to enhance visibility and allow for easy identification of site workers.
- **Comfort and Ergonomics:** To ensure compliance and reduce fatigue, PPE for electrical workers is designed for comfort, with ergonomic features that facilitate prolonged use.
- **Standards Compliance:** Electrical PPE must comply with industry standards such as those from OSHA, NFPA (National Fire Protection Association), and ASTM (American Society for Testing and Materials), ensuring they meet rigorous safety and performance criteria.

These characteristics ensure that electrical workers are protected from the unique hazards they face, while maintaining comfort and functionality in often demanding work environments.

Types of PPE Used in Electrical Work (H2)

We can break down the PPR typically used by electrical workers into several components:



1: Head Protection

- **Insulated Hard Hats:** Protect against falling objects and electrical shocks.

2: Eye and Face Protection

- **Safety Goggles:** Shield eyes from flying debris.
- **Face Shields:** Provide additional protection against arc flashes.

3: Hand Protection

- **Rubber Insulating Gloves:** Essential for preventing electrical shocks.
- **Leather Protectors:** Worn over insulating gloves for mechanical protection.

4: Body Protection

- **Arc-Rated Clothing:** Designed to withstand the heat hazards of an arc flash. For a deeper understanding of arc-rated clothing versus flame-resistant clothing, refer to this informative article.

5: Foot Protection

- **Electrical Hazard (EH) Rated Boots:** Provide protection against electrical shocks.



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All aspects of a worker’s clothing should be considered alongside appropriate PPE in an electrified working environment. Such considerations might include subtleties like jewelry, metal belt buckles and glasses frames. Anything that may conduct electricity could potentially prove a source of danger.

**Key Considerations in Selecting and Using the Right Electrical PPE (H2)**

When selecting appropriate electrical PPE, the following five considerations should be borne in mind (in no specific order; they are all vital):

- 1: Compliance with Standards**  
Ensure all PPE meets relevant safety standards such as those set by OSHA, NFPA, and ASTM.
- 2: Proper Fit and Comfort**  
PPE should fit well to provide adequate protection without hindering movement or causing discomfort.
- 3: Maintenance and Inspection**  
Regularly inspect PPE for damage and wear. Replace any compromised equipment immediately to maintain its protective capabilities.

**By understanding the importance of electrical workwear, recognizing common hazards, and following a comprehensive checklist, organizations can create a safer working environment.**

- 4: Training and Awareness**  
Electrical workers should be trained on the proper use, care, and limitations of their PPE. Continuous education and awareness are crucial to maintain high safety standards.
- 5: Environmental Considerations**  
Choose PPE that is suitable for the specific working environment, considering factors like temperature, humidity, and the presence of flammable materials.

**Prioritizing Safety with Proper PPE for Electrical Workers (h2)**

The safety of electrical workers hinges on the proper selection and use of PPE.

By understanding the importance of electrical workwear, recognizing common hazards, and following a comprehensive checklist, organizations can create a safer working environment. Prioritizing regular training, proper maintenance, and adherence to safety standards will ensure that electrical workers are well-protected against the myriad risks they face daily.

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# LED Upgrade at the Metro Toronto Convention Centre

(Toronto, Ontario, CAN)

BY SUSAN BLOOM

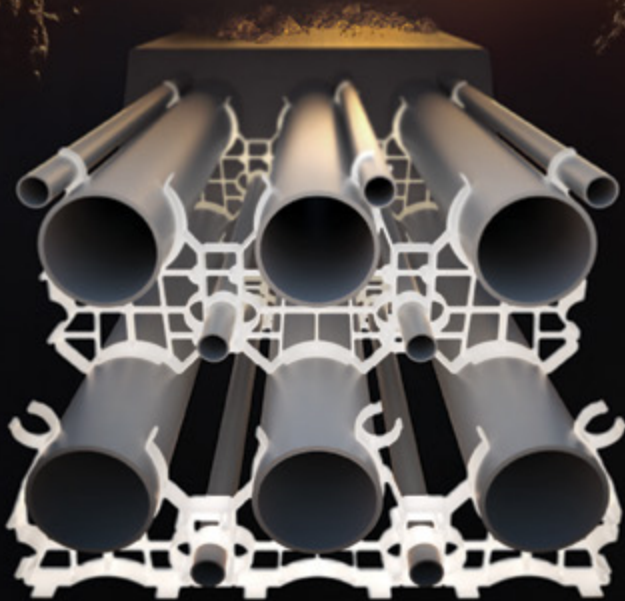
The Setting

Located in the heart of Canada’s largest city, the Metro Toronto Convention Centre (MTCC) is a renowned destination and premier choice for event planners worldwide. Since first opening in 1984, more than 22,000 events have been held within the MTCC’s 442,000 square feet of exhibit space, 77 meeting rooms, multi-purpose ballrooms, and state-of-the-art theatre. Tourism generated by MTCC events have contributed billions of dollars towards the region’s economic growth and prosperity.

In addition to offering a full suite of services to sustain long-term business success, the MTCC has long taken pride in promoting ethical, ecological, and philanthropic practices that benefit society and the environment. Other sustainability initiatives include sourcing food and beverage from local

Goal:	Upgrade the outdated 350-450-Watt metal halide lighting technology at the Metro Toronto Convention Centre (MTCC) with high-performing, energy-efficient, long-lasting, and low-maintenance LED fixtures from LEDVANCE
Products Installed:	1,431 200-Watt UFO High Bay Fixtures from LEDVANCE, which are ideal replacements for metal halide lighting
Benefits:	<ul style="list-style-type: none"><li>• LEDVANCE LEDs slashed the MTCC’s previous lighting energy consumption by some 50%, reducing the cost to light in their exhibit halls by nearly \$142,000 annually</li><li>• Thanks to their long 150,000-hour rated average life and minimal maintenance requirements, LEDVANCE LEDs will reduce the MTCC’s maintenance costs by \$682,000 annually</li><li>• The upgrade involved a simple one-for-one changeout and LEDVANCE LEDs were easy to install</li><li>• LEDVANCE LEDs will reduce the MTCC’s carbon footprint by nearly 944,000 kWh annually, helping to achieve the Convention Centre’s sustainability goals</li><li>• Payback on the MTCC’s investment in LEDVANCE LEDs will occur in under 3 years</li><li>• The fixtures’ high color rendering index (CRI) enhances visibility and delivers a uniform ambiance that promotes occupant comfort and well-being</li><li>• Unlike metal halide technology, LEDVANCE LED fixtures don’t require a ballast component and don’t contain mercury, a hazardous material that requires special and often costly disposal</li></ul>

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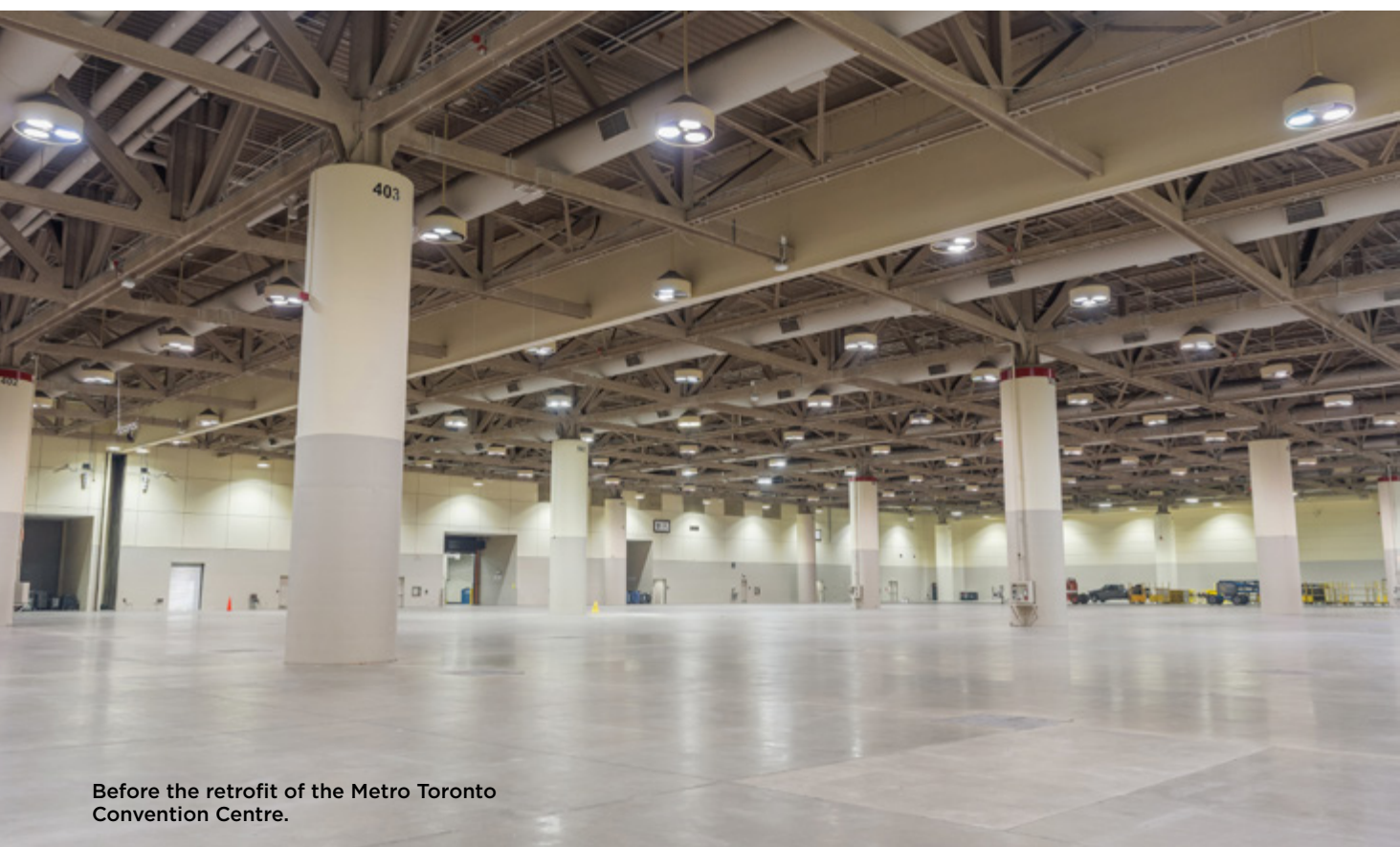
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Before the retrofit of the Metro Toronto Convention Centre.

farms and suppliers, a Chef’s Garden and beehive on the roof of the South Building, and donating leftover food and other items to food rescue organizations in Toronto. The facility also engages in recycling, waste diversion, and offers a range of sustainable meeting solutions.

In keeping with its commitment to environmental stewardship, the MTCC also embraces the use of energy-efficient products and systems throughout its facility. Since completing an extensive lighting upgrade involving high-performing LEDs throughout two exhibit halls in collaboration with leading LED manufacturer LEDVANCE and electrical distributor partner Green Bird Electric Solutions Inc., the MTCC is now poised to enjoy the benefits of high-quality lighting, significant energy and cost savings, maintenance-free operations, and enhanced sustainability for years to come.

The Situation

According to Hijaz Mohamed, Manager of Engineering at the MTCC,

the Convention Centre (comprised of a North building constructed in 1984 and a South building constructed in 1997) had undergone different energy-efficient upgrades over the years, but a lighting upgrade remained the last piece of the puzzle.

“We started thinking about a LED upgrade in 2018/2019, but then the pandemic hit,” Mohamed said. “We made our lighting upgrade a priority and began planning for it in late 2022/early 2023.”

Mohamed said that many issues prompted the need to upgrade the 1,431 350-450-Watt metal halide fixtures that had illuminated their exhibit halls for years.

“In addition to taking a long time to warm up when they were switched on, the lights suffered from lumen depreciation and color shifting over time, which caused them to have different yellow and blue tints, cast shadows, and lack uniformity,” said Mohamed, who noted that the fixtures were also costly and time-consuming to

maintain. “Because they ran very hot, the lights created socket issues, brittle wire, and often burned out,” he said. “Every time an outage occurred, we’d have to get maintenance crew members out on a boom lift because clients rent out these exhibit floors and don’t want their actual products or pictures of their products to be diminished by poor lighting.”

After researching products, reviewing previous consultants’ lighting studies, and securing buy-in from their stakeholders, the MTCC received approval to pursue an LED upgrade and immediately reached out to various distributor partners including Green Bird Electric Solutions Inc., who worked with MTCC closely with different samples and solutions to figure out an ideal selection of products to be installed.

“Founded in 2010, we’re a family-run distributorship that’s extremely customer-focused, so when the MTCC team reached out, we were excited to support them on this upgrade,”

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**IP19**

**4-Conduit Block**

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**IP21a**

**QwikBlock**

Vertical support from only one 1/4", 3/8" or 1/2" threaded rod by attaching two machine screws 1/4" x 20 thru the existing holes in back of the box. Eliminates knocking out center KO on box and traditional nut and washer method to support a single box.

**IP20a**

**Box Support Rod Cubes**

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**IP3e**

**PVC Guide**

**IP2b**

**PVC Driver**

**TE15**

**Conduit Layout Tool**

**IP3g**

**Long Slip PVC**

**IP3f**

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During the retrofit of the Metro Toronto Convention Centre.

confirmed Ahmed Baig, Vice President of Toronto-based Green Bird Electric Solutions Inc. “The MTCC hosts everything from auto shows to Comic Con and more, and with their 45-foot-high ceilings and diversity of clients and events, they needed a high-performing, all-purpose lighting system to showcase the different products being featured and make them pop.”

**A Stellar and Sustainable Solution**

Given that tall order, Baig said, “we went with LEDVANCE LEDs because we knew we could get the optimal product, performance, and quality at a price that would meet the MTCC’s budget.” Working with Yasmin Navid, LEDVANCE’s Mississauga-based Senior Sales Representative, “we selected LEDVANCE’s 200-Watt UFO High Bay, a sleek, high-performing, and energy-efficient LED solution

that’s ideal for illuminating warehouses, gymnasiums, and other high-ceiling, industrial applications like the Convention Centre,” Baig said. “Though the MTCC was initially seeking LED replacements for their existing HID fixtures, we discussed this approach with our colleagues at Green Bird Electric and determined that the cost of doing that wasn’t necessarily lower and wouldn’t deliver the desired lumens to the floor,” Navid noted. “Lighting is key to creating the right ambiance and mood, especially in such a busy and prominent public venue as the Convention Centre, and we agreed that the UFO High Bays were a better fit for the MTCC’s space,” Navid continued. “Offering a rated average life of 150,000 hours, these well-built fixtures deliver clean and uniform light distribution, built-in surge protection, instantaneous on/off, a solid five-year warranty, and powerful lumen output for less wattage relative

to metal halide technology.” The MTCC’s Mohamed wholeheartedly agreed. “We wanted a product and manufacturer we could trust, and we knew LEDVANCE and loved their quality and consistency,” Mohamed said. “And the team from Green Bird Electric were great when it came to understanding our needs, providing samples, helping us select the right product for our application, and delivering everything within our tight timeframe.” **A Top-Notch Transformation** Overseen by the MTCC’s in-house electricians, installation of the new LEDVANCE fixtures began in December 2023, was completed in both the North and South buildings by Spring 2024, and the full team couldn’t be happier with the results. “Thanks to their high-efficiency, long-lasting new LEDs, the MTCC will



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## THE MVP20K

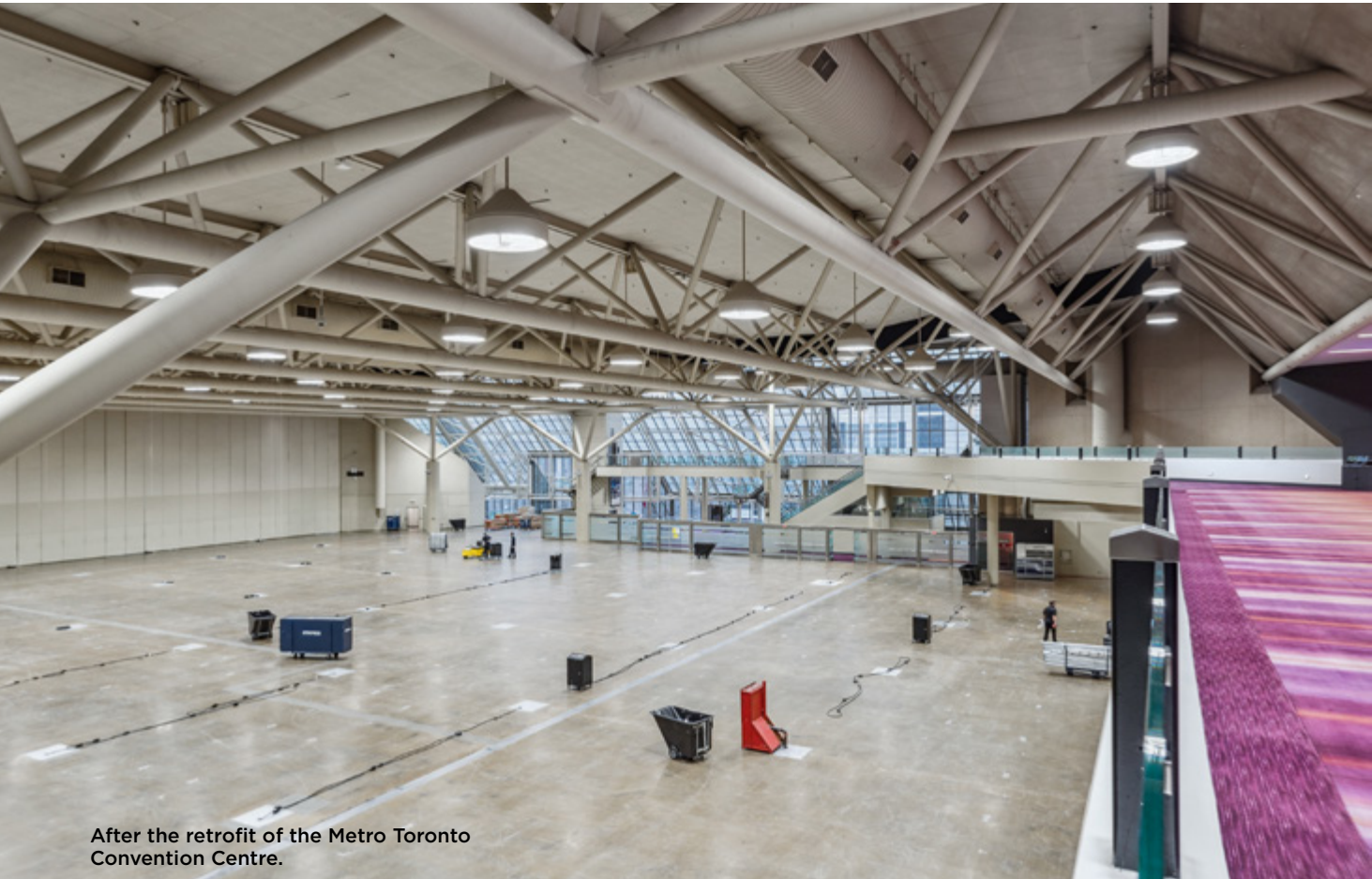
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After the retrofit of the Metro Toronto Convention Centre.

enjoy nearly \$142,000 in energy cost savings and \$682,000 in maintenance cost savings every year,” Green Bird Electric’s Baig said. “At the same time, the availability of a \$178,000 rebate from local utility/ Government program to offset 50% of the project cost, which brought their payback period to under three years – an attractive return on investment by any measure.”

As for the new lighting itself?

“When we first unveiled it, people were just in awe – it’s so much brighter and made it look and feel like a different building,” Mohamed raved. “Our Auto Show clients used to bring their own lighting to the facility to ensure optimal illumination of their vehicles, but now they tell us to leave our lights on because it makes their cars look beautiful.” In fact, he joked, “the new lighting has enhanced visual acuity in our space so much that we’re now planning on redoing our floors later this year because the new lighting

has made the blemishes on our floor more visible.”

The MTCC’s project partners are equally thrilled with the results of the upgrade.

“The new lighting looks crisp and beautiful, makes the exhibit halls look fresh and more inviting, truly spotlights the products being featured, and upgraded the look and feel of the space from more of a warehouse to a showroom,” Baig said.

“The new lighting system is a total win-win and we couldn’t be more excited for the MTCC and the city of Toronto to reap the benefits of this upgrade,” agreed LEDVANCE’s Navid. “We’re so proud to have been part of upgrading the Metro Toronto Convention Centre, which is such an important and renowned landmark in our area.”

As someone who was in Montreal and raised in Toronto, “this project was our contribution to the city we love,” Green Bird Electric’s Baig said. “The MTCC

is where everyone congregates, and to be able to share our love of lighting with our city in such an iconic setting is priceless. This project contributes to a more sustainable city and world,” he said, “and the new LEDVANCE lighting system will serve the MTCC well for decades to come.”

“When you have the right partners in place and the incentives are out there, these projects are very manageable and we only wish we’d done it sooner,” confirmed the MTCC’s Mohamed of their successful upgrade. “As the biggest convention centre in Canada, this lighting upgrade reflects our desire to continue leading the way in sustainability and creating inviting, engaging, and environmentally-friendly experiences for clients and visitors alike.”

Thanks to their top-notch team of lighting colleagues and partners, Mohamed concluded, “it was an amazing collaboration and a beautiful transformation.” □

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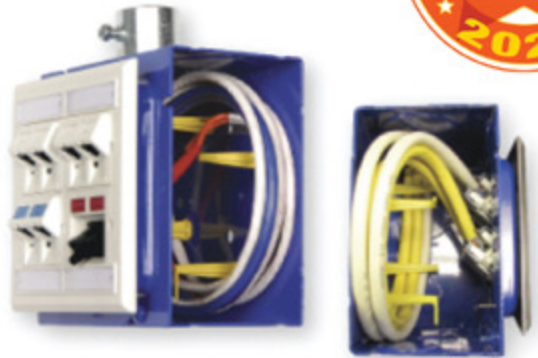
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22 | Electrical Products & Solutions | NOVEMBER 2024



# Eaton and Treehouse form strategic collaboration to accelerate mass adoption of EV charging and electrification in U.S. homes

*Establishing Eaton as preferred supplier for Treehouse installations powered by AI software and Eaton home energy management solutions*

Enabling residential electrification installation programs at scale for automotive OEMs, utilities and hardware manufacturers

Pittsburgh – Intelligent power management company Eaton announces a collaboration with Treehouse to enable high-quality, cost-effective and code-compliant residential electrification projects. The collaboration brings together Eaton’s digitally enabled electrical solutions with Treehouse’s AI-powered software and end-to-end installation capabilities, helping expedite the energy transition and electrification at home with EV charging, energy storage, heat pumps and more.

Consumers looking to electrify and reduce their carbon footprint at home need to understand the installation time and costs required to make it happen. Eaton and Treehouse will provide consumers with fast, accurate pricing and access to licensed electricians for safe, code-compliant installations. Treehouse will programmatically apply Eaton’s intelligent hardware solutions to specific installations and scope projects accordingly, helping ensure the smartest solutions are deployed at scale. Together, the companies will streamline and expedite retrofit and new construction projects from scoping, design, bid to installation and provide electrical contractors with pre-sold jobs.

“At Eaton, we’re all in on the

energy transition and we’re making it happen at scale by delivering breakout technologies and industry collaborations needed to delight customers and make it more accessible and affordable,” said Paul Ryan, general manager of Connected Solutions and EV Charging at Eaton. “Treehouse consistently ranks among the highest in customer loyalty and satisfaction, which is vital for Eaton and our joint customers. We’re confident this collaboration will streamline and expedite U.S. electrification projects, driving consistency, reliability and sustainability—while saving time and money.”

The multi-pronged collaboration advances Eaton’s Home as a Grid approach by simplifying and accelerating a safe energy transition:

Reducing the obstacles to electrification and helping ensure the smartest, most effective solutions are deployed through Treehouse’s end-to-end installation platform and a nationwide network of contractors.

Helping electricians complete more projects faster by saving time at the electrical panel, incorporating the most innovative and effective hardware, and reducing the truck rolls required to design and bid each project.

Providing consumers with detailed project scopes, accurate costs and access to licensed electricians at the point of sale to enhance transparency, fast-track projects and avoid unnecessary

upgrades.

Supporting best-in-class, installation programs for automotive OEMs, utilities and hardware manufacturers at scale.

“Eaton is both an industry leader and an innovating pioneer in the electrification age,” said Eric Owski, Treehouse CEO. “Our collaboration with Eaton will accelerate our ability to deliver turnkey and cost-effective electrification projects, from EV charging to home energy storage and heat pumps.”

Under the agreement, Eaton will become the preferred technology supplier for Treehouse installations, providing the solutions to support residential projects, including its AbleEdge home energy management ecosystem, Green Motion EV chargers and expansive portfolio of smart home solutions. The Eaton Certified Contractor Network will have access to Treehouse’s end-to-end installation platform that supports scoping, design, permitting and install.

Treehouse is a software-enabled installation platform for electrification projects. By operating as a centralized, end-to-end partner, Treehouse helps companies – including auto retailers, fleet providers, utilities, and electrification hardware manufacturers – scale electrification programs nationwide and deliver seamless, delightful installation experiences for customers. □



**ABOUT EATON**

Eaton is an intelligent power management company dedicated to protecting the environment and improving the quality of life for people everywhere. We make products for the data center, utility, industrial, commercial, machine building, residential, aerospace and mobility markets. We are guided by our commitment to do business right, to operate sustainably and to help our customers manage power — today and well into the future. By capitalizing on the global growth trends of electrification and digitalization, we’re accelerating the planet’s transition to renewable energy sources, helping to solve the world’s most urgent power management challenges, and building a more sustainable society for people today and generations to come. Eaton was founded in 1911 and has been listed on the New York Stock Exchange for more than a century. We reported revenues of \$23.2 billion in 2023 and serve customers in more than 160 countries. For more information, visit Eaton.com.



## New Product Introduction: Slim Dual Function Arc Fault/Ground Fault Circuit (AF/GF) Receptacles

*Eaton’s Wiring Devices Expand its Next Generation of Slim Protection Devices*

Eaton’s Wiring Devices continues to expand its family of slim protection devices to include Dual Function Arc Fault/Ground Fault Circuit (AF/GF) receptacles.

In compliance with the latest UL and National Electrical Code® (NEC) safety standards, the Slim AF/GF receptacles combine both Arc Fault — protection against electrical fire — and Ground Fault — protection against electrical shock — into one convenient device.

The next generation Slim AF/GF receptacles have been redesigned to now feature:

- A thin 1.03-inch depth that provides more room in the electrical box for quick and easy wiring
- Wider TEST/RESET buttons making it easier to test and reset the device
- An intuitive large reset indicator light for easy identification of a trip incident
- An end-of-life indicator light allowing for easy identification of a device failure

The NEC mandates AF/GF protection in dwelling unit areas including kitchens, bedrooms, hallways, laundry rooms and basements.

**For more information, visit [www.Eaton.com/SlimAFGF](http://www.Eaton.com/SlimAFGF)**

## Middle Atlantic Launches NEXSYS™ Online UPS Backup Power Systems Series

*The NEXSYS Online UPS Backup Power Systems Series Includes 12 Models to Provide Flexible, Reliable Power Distribution, Management, and Control to Any AV System*

Middle Atlantic Products, a brand of Legrand | AV, recently announced the latest additions to its NEXSYS™ AV power distribution and backup platform, the NEXSYS Online UPS Series. The NEXSYS Online UPS carries forward the reliability, protection, and control that the platform introduced to the market, now in new options to fit today’s most demanding and sensitive AV systems. Available in 12 configurations, the NEXSYS Online UPS Series offers six or eight outlets with bank or individual outlet control, in 15 Amp 1000VA and 1500VA, 20 Amp 2000VA, and 30 Amp 3000VA models.

“NEXSYS provides the industry with power products designed, engineered, and built for AV, a Middle Atlantic promise on our power products for over two decades,” said Nyron Kahrim, Product Manager for Middle Atlantic UPS Power Products at Legrand | AV. “The new NEXSYS Online UPS family stands firm in that commitment. It’s built with premium components to keep AV systems running smoothly and reliably, even during power outages or anomalies.”

The Middle Atlantic NEXSYS Online UPS Series ensures a strong foundation for any AV system. The Energy Star-certified and U.S. Department of Energy-compliant solutions deliver pure sine wave output with an online, double-conversion topology with zero transfer time, providing the cleanest and most reliable power to connected equipment, especially the most sensitive. The series includes eight outlet models in either bank control with two four-outlet banks or individual control for all eight outlets, making it the first online UPS with individual outlet control in the AV market. The 3000VA models feature six outlets with individual outlet control or bank control. For bank control, the outlets are arranged into two banks with three outlets each that include six NEMA 5-20R outlets. The 3000VA models also include an additional NEMA L5-30R outlet that is not controlled but always on when the UPS is turned on.

Every unit comes assembled and connected right from the factory, saving integrators time during installation. With preinstalled rack ears with “4-Post” mounting brackets and a connected battery, installers can quickly mount and plug it in. Setting and notifications, such as battery replacement, can be customized via NEXSYS Power Management Software. In addition, the NEXSYS UPSs are RackLink™ compatible for remote monitoring and management including RackLink Cloud. Installers can easily access and service the hot-swappable battery from the front access panel without disrupting the system.



**For more information, visit [www.legrand.com](http://www.legrand.com)**





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# Galvanized Rigid Transition Couplings to Schedule 40/80 PVC Stub-Up



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See Our  
Conduit Plug  
See page IP27c



See Our  
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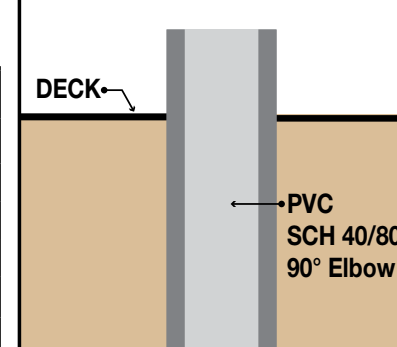
**1/2" thru 6"**

## Transition Couplings

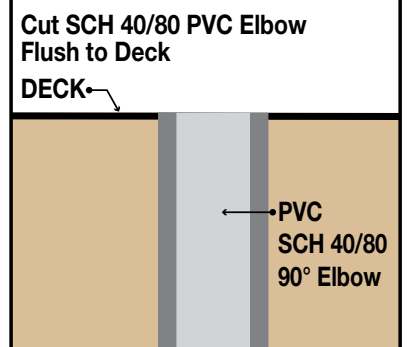
Size	Catalog #
1/2"	50-PVC-R-GRC
3/4"	75-PVC-R-GRC
1"	100-PVC-R-GRC
1-1/4"	125-PVC-R-GRC
1-1/2"	150-PVC-R-GRC
2"	200-PVC-R-GRC
2-1/2"	250-PVC-R-GRC
3"	300-PVC-R-GRC
3-1/2"	350-PVC-R-GRC
4"	400-PVC-R-GRC
5"	500-PVC-R-GRC
6"	600-PVC-R-GRC

All Above Meet UL651  
CSA C22.2, No.85 and  
US Army Corps Engineers  
Specifications

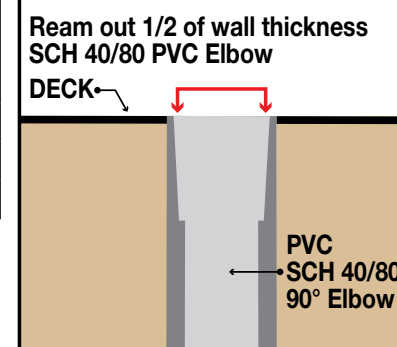
### STEP 1



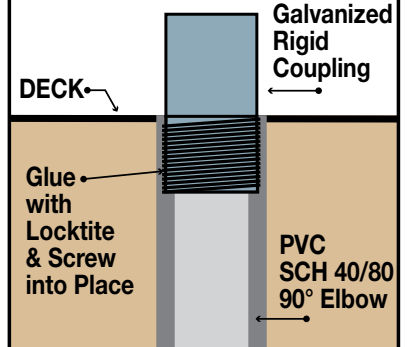
### STEP 2



### STEP 3



### STEP 4



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Cementex Highlights Feature Series of Arc Flash PPE Task Wear

Next level comfort, safety, and durability for arc flash protection

Cementex, the safety tool specialists, highlights the Cementex Feature Series of Arc Flash Protective Clothing PPE, designed for those seeking the next level of comfort, safety, durability, and protection. With the focus on safety and usability, the Cementex Feature Series is made with USA labor and materials to ensure the highest quality arc flash protection.

The Feature Series clothing is made with Indura® Ultra Soft® FR treated cotton and meets current ASTM F1506 and F1959/1959M-99 standards. FR Velcro® front closures provide a secure closure, easy access, and rapid removal in the event of arc flash exposure. FR Velcro® calf/ankle closures allow for easy access and fit adjustment during donning and removal, and adjustment while wearing boots.

Clothing options include coats, parkas, bib/pants, coveralls, and leggings, available in sizes S-5X with a standard inseam of 32". Coveralls include elastic backs for ease of movement, and all coats and coveralls have Nomex® knit wrist cuffs. Bib/pants have easily adjustable "quick disconnect" shoulder straps to ensure user safety. Kits are available in a duffle bag, backpack or hard-sided storage canister, and include hard-hats, safety glasses, and ear canal inserts.

In addition to the Feature Series of Arc Flash Protective Clothing PPE, Cementex also offers the Contractor Series for high quality, classic protection of personnel around energized equipment and the UltraLite Series, with innovative design and materials for the lightest, most comfortable Arc Flash PPE Task Wear available.



For more information, visit [www.cementexusa.com](http://www.cementexusa.com)



Orbita Pendant

- Modular design allows customization of lengths and configurations to meet specific project specifications
- Adjustable 360-degree rotation allows for direct or indirect illumination and fine-tuning of the light distribution onsite
- Nano Linear light engine segments provide an elegant, minimalist look



Available in 12-, 18-, 24- and 36-inch segmented lengths with up to three segments, the Orbita Pendant features 360° rotatable light engines/optics to effortlessly fine-tune the direction of the light in the field, making it possible to select direct, indirect or anything in between. The Nano Linear light engine segments provide an elegant, minimalist look.

The Orbita pendant features superior color rendering with high R9 and R13 values. Color variation is kept within a 2-step MacAdam ellipse for unparalleled quality and consistency. The pendant is offered in 2700K, 3000K, 3500K and 4200K color temperatures and available with a matte black or satin brass finish. The Orbita family includes complimentary sconces and a wall-mount luminaire. The family is UL Listed, Title 24 compliant and RoHS compliant.

For more information, visit [www.optique-lighting.com](http://www.optique-lighting.com)

Pfannenbergl USA Introduces PTF 1200 High CFM Top-Mounted Filter Fan

Compact, durable, and energy-efficient, the PTF 1200 offers high cooling performance

Pfannenbergl, Inc., a global leader in thermal management and signaling technologies, proudly introduces the PTF 1200, an industry leading high CFM top-mounted filter fan designed to redefine cooling solutions for various industries. This compact yet powerful innovation boasts an unimpeded airflow rate of up to 589 CFM, making it a game-changer in the realm of cooling solutions.

The PTF 1200's exceptionally high heat removal capacity is matched by its durability, featuring a robust full metal housing enclosure that ensures longevity, even in challenging environments. With a protection class of IP 54/NEMA 12, this top-mounted filter fan guarantees effective protection against dust, dirt, and moisture, maintaining optimal performance under diverse conditions.

One of the standout features of the PTF 1200 is its energy-efficient EC centrifugal fan, delivering optimum airflow and uniform temperature distribution. Its energy-efficient centrifugal fan translates to low power consumption, contributing to sustainability efforts.

The PTF 1200's long service life is due to its EC fan, which provides a soft start and stop, reducing wear and tear on vital parts. The result is an impressive 70,000-hour average lifetime which is also complemented by the ease of filter changes, reducing maintenance costs and downtime. Filter replacements don't require skilled labor and are quick, ensuring minimal downtime during servicing and making it an ideal choice for maintenance managers seeking efficiency.



For more information, visit [www.pfannenberglusa.com](http://www.pfannenberglusa.com)



U.S. Architectural Lighting Expands AXIM Series with Square Contemporary Columns and Bollards for Outdoor Pedestrian Spaces

Nine distinct photometric distributions offer superior performance, scalability, and safety for illuminated pedestrian environments.

U.S. Architectural Lighting, a leading U.S.-based manufacturer of contemporary outdoor lighting solutions, is pleased to announce the expansion of its AXIM Series with the addition of square lighted columns and bollards. These new products are designed to seamlessly integrate with modern architectural aesthetics, offering refined, contemporary designs that enhance both functionality and form in pedestrian environments.

The AXIM square columns, available in heights ranging from 3 feet to 12 feet, are ideal for pedestrian-scale applications such as parks, pathways, plazas, building entrances, and walkways. Continuing the success of the AXIM round-lighted styles, these square columns and bollards deliver a sophisticated lighting solution while providing secure, evenly distributed illumination.

Each square column in the AXIM Series is powered by U.S. Architectural Lighting's state-of-the-art PLED® Optical System, housing 12 LEDs delivering up to 4750 lumens at 40 watts. The system offers nine distinct photometric distributions, ensuring precise light placement for a variety of design and security needs. Options for ambiance-enhancing low-luminance lenses and house-side shielding further allow for tailored lighting environments.



Performance & Versatility

The AXIM Series is designed to accommodate multiple color temperature options, including 2700K, 3000K, 4000K, and 5000K, with a minimum CRI of 70, ensuring color accuracy and consistency. These versatile columns meet the rigorous demands of outdoor lighting professionals by offering both aesthetic flexibility and superior performance across diverse environments.

Engineered for both low-voltage (120-277V, 50/60Hz) and high-voltage (347-480V, 50/60Hz) applications, the AXIM Series features a 0-10V dimmable driver and TM-21 L83-rated performance life of 100,000 hours. The luminaire drivers are UL and cUL recognized, capable of withstanding harsh conditions with a minimum operating temperature of -40°F (-40°C).

For more information, visit [www.usaltg.com/AXIM](http://www.usaltg.com/AXIM)



## Southco: Quick Access Fastener vs a Traditional Screw?

The main advantages of a quick access fastener over a traditional screw are the reduced time and effort required to operate it. Quick access fasteners typically require only a quarter-turn or other single-motion to release, allowing for quick and easy access to the component being secured. This can be particularly beneficial in applications where frequent access is required, such as in maintenance or repair scenarios.

Another important advantage of quick access fasteners over screws is vibration resistance. This ensures panels remain secure, while traditional screws and lock washers may loosen over time due to vibration.

Quick access fasteners also provide a secure and reliable clamping force, with minimal risk of over-tightening or under-tightening. This can be a common issue when manually tightening a traditional screw.

In addition, quick access fasteners are available in a wide range of materials and sizes to meet various environmental and strength requirements. With flush-mounted and other low-profile designs providing a sleek and unobtrusive appearance while still maintaining a secure connection.

Life expectancy, or cycle life, is another crucial benefit. Is the part going to stand the test of time? For applications that require quick and frequent access, you need a part that can perform consistently over a long period of time. With the easy quarter turn motion, quick access fasteners can outperform a traditional screw's cycle life.

The enhanced performance and benefits of quick access fasteners do have a price premium and may be a bit much for applications where only very occasional access is required. However, for applications requiring frequent access, quick access fasteners facilitate fast and easy operation while remaining secured to the panel, preventing fastener loss.

**For more information, visit  
[www.southco.com/quick-access-fasteners](http://www.southco.com/quick-access-fasteners)**



## New MSF Series

*Slim Floods - Adjustable Beam Angle  
Wattage & CCT Selectable*

The MaxLite Slim Flood Light family delivers high performance in a small and price-effective package. All versions are available for a variety of mounting applications - 1/2" threaded knuckle yoke and slipfitter. Most models are CCT and Wattage selectable and include a photocell as well as beam adjustability between Narrow, Medium and Wide.



- 6 Model Sizes
- Field Adjustable Beam Angle
- Wattage Selectable 3000/4000/5000K
- Lumens between: 1,270 - 44,880
- 20W-80W models: Includes threaded knuckle and yoke mount
- 150W-320W models: Includes knuckle slipfitter or yoke mount
- Photocell or 7-pin receptacle w/cap
- Visors available
- DLC Premium listed



**For more information, visit  
www.maxlite.com**

# DON'T MISS OUT!

Does your product help to increase profits or improve safety and overall working conditions for the electrical contractor? If so, don't forget to submit your product for nomination as one of *Electrical Products & Solutions'* **"TOP PRODUCTS OF 2024"**. All the winners will be featured in our December issue.

**Deadline: December 6, 2024**

**Requirements:**

Submit a high resolution photo (300 dpi) of your product, along with a brief description (up to 150 words). *Please note on your submission that it is for consideration for Top Products.*

E-mail: [danny@epsmag.net](mailto:danny@epsmag.net)  
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2009 Eagle Ridge Drive, Birmingham, AL 35242

## Low-Optical Flicker Solutions

SATCO | NUVO Introduces Premium LED T8 Lamps

Introducing SAICO|NUVO's Premium LED T8 collection—designed for optimal lighting performance. UL Verified with a remarkably low flicker ratio of less than 2%, these lamps provide consistent, comfortable illumination, making them ideal for task-driven environments where focus and precision are essential.

With a commitment to comfort and efficiency, the Premium LED T8 lamps offer 5 CCT selectability at installation, allowing you to choose from 3000K, 3500K, 4000K, 5000K, or 6500K for the perfect lighting in any environment. Also, dimmable when used in 120V applications, these lamps provide even more customization to meet situational demands.

SATCO Vice President of Product Development, Chris Siegal said, "We are consistently striving to enhance how lighting impacts productivity, mood, and overall health. Offering a low-flicker solution with CCT choices is a great step forward in providing products that ensure a great user experience, especially in settings where people are spending a great deal of time."

Ballast bypass and range voltage compatible, 2-foot, 3-foot, and 4-foot models are available in 7W through 18.5W. These low optical flicker LED lamps make it easy to retrofit traditional fixtures with an energy and labor-saving upgrade that everyone can appreciate.

**For more information, visit  
[www.satco.com](http://www.satco.com)**






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The built-in capstan switch automatically turns the puller on and off. Simply tug on the rope to start the pull and slack off the rope to shut it down. Delivers dynamic performance in remote locations or areas where power is not yet available.

SCAN ME







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We're Proud to be the Electricians' Friend for Over 50 Years!

**IP5**

**"The Original"**

Enter Any KO on Both Sides of the Box



**IP19/20**

4-Conduit Block  
PATENTED

**IP21a**

QwikBlock  
PATENT PENDING

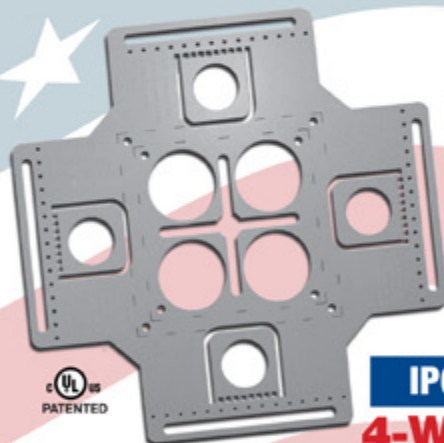
Use 4-Conduit Block (IP19 or IP20) with QwikBlock (IP21a)

**IP6d**

**2-Way**  
with Split Fingers for Horizontal or Vertical Installation



**Our Family of Conduit & Box Support Plates Saves Valuable Time & Money!**



**IP6**

**4-Way**

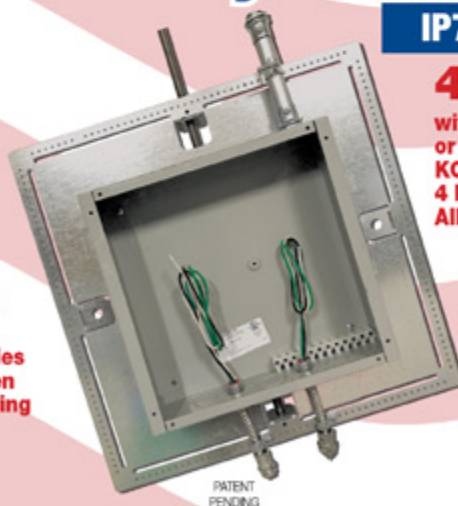
Enter Any KO on All 4 Sides of the Box Plus 4 Large Open KOs in Center Allows Entering Back of Box



**IP6a**

**2-Way/Half**

Enter Any KO on 1 or 2 Sides of the Box Plus Large Open KOs in Center Allows Entering Back of Box



PATENT PENDING

**IP7**

**4-Way**

with Split Fingers for Horizontal or Vertical Installation. Enter Any KO on All 4 Sides of the Box Plus 4 Large Open KOs in Center Allows Entering Back of Box.

**IP8**

Mount Horizontally or Vertically from One Single Support

**20 x 20**

Supports up to 12 x 12 J-Box

**28 x 28**

Supports up to 20 x 20 J-Box

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