

MANUAL WORK MEETS MODERN AUTOMATION TO EMPOWER WORKERS WITH HANDICAPS

August 2020

# Electrical

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*The Purchasing Guide for Electrical Contractors*

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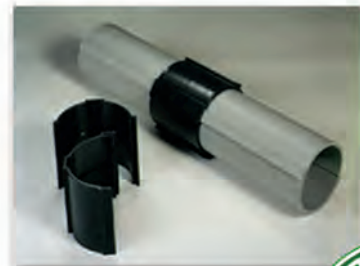
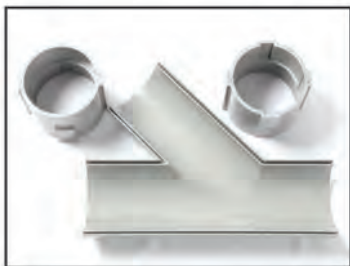


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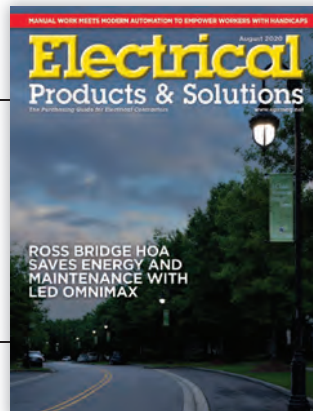
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Image courtesy of Evluma



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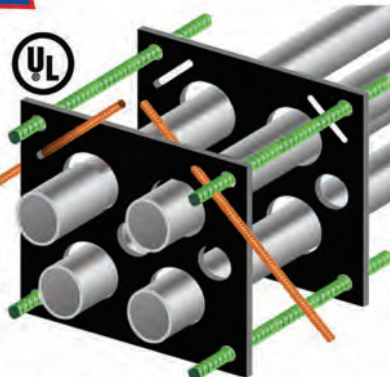


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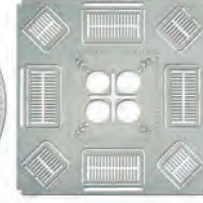
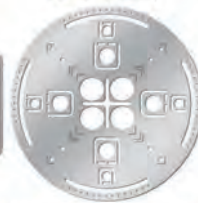
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# Generator InterLock Technologies, LLC

**Generator InterLock Technologies, LLC**, is a small-based company that manufactures and sells its products across the country. The company was founded after Hurricane Isabel hit the east coast in 2003. The product was developed to meet the need for a safe way to use portable generators to power homes in the event of power loss.

The initial inspiration for the product came from a persistent friend of an electrician working for Master Electrical Services. As electrical contractors, they had seen various unsafe and illegal methods that people had used to try to power their houses with their portable generators. The electrician set out to develop a product that would meet National Electrical Code requirements and at the same time be cost effective and convenient for the homeowner. From that original inspiration came a new company: Generator Interlock Technologies or GIT.

The Interlock Kit is a simple safety product that locks out the Main breaker in the existing home panel and allows for the portable generator to power the home through a back feed generator breaker. While many electrical inspectors liked the product; they all agreed that the product would have to be listed to UL standards. After thousands of dollars in fees, rigorous tests, a year of changes and modifications, the Interlock Kit was finally approved for production to be used with panels listed under UL Standard 67.

The company started filling orders in early 2005, using Master Electrical Services as its basis for customer awareness.

Starting with a few kits that fit the most recent Square-D and Cutler Hammer panels, the offerings grew to over 30 different models in less than one year. Generator Interlock Technologies now has kits for panels from 30 years ago to the most current and they continue to add new kits to meet their customer's needs. While contractors in Florida and the North East are the biggest customers, Interlock Kits have been sent throughout the United States and parts of Canada. Whether the power loss is due to coastal hurricanes or from crippling ice storms in the northern , GIT has a kit that will allow customers to keep the power on in their homes.

The Interlock Kits are designed to be installed by licensed electricians and are cost effective for both the customer and the installer. Other products on the market such as generator sub-panels and transfer switches require extensive rewiring of the home panel, often taking the electrical contractor 6 to 8 hours to install. With the Interlock Kit, a qualified electrician can install a complete system in 2 hours or less by simply mounting the correct kit to the face of the panel and wiring a gen-



erator convenience outlet to a breaker installed in the panel.

To use their portable generator, a homeowner plugs an extension cord from their generator to the new generator convenience outlet. He then starts the generator, turns off the main breaker, slides the Interlock Kit, turns on the generator breaker and selects the circuits for use up to the capacity of the generator.

Generator Interlock Technologies' Kit is a defining safety product that has been recognized as a Innovation Award Winner by *Electrical Contracting Products* magazine and one of the Top Products by *Electrical Products and Solutions* magazine.

Generator Interlock Technologies, LLC, has taken a problem of safety and convenience and developed a system to keep danger and expenses to a minimum. Starting with an idea of helping a friend in need, to helping thousands across the country, GIT continues to grow due to its commitment to deliver a quality product. Visit [www.interlockkit.com](http://www.interlockkit.com) for a complete list of products and details. □

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***With the Interlock Kit, a qualified electrician can install a complete system in 2 hours or less by simply mounting the correct kit to the face of the panel and wiring a generator convenience outlet to a breaker installed in the panel.***

---

# INTERLOCKKIT

A Generator InterLock Technologies Product



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**To order or learn more about the INTERLOCKKIT  
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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.electricalsafety supply.com](http://www.electricalsafety supply.com), email  
Vince at: [sales@millersafetyltd.com](mailto:sales@millersafetyltd.com)  
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# Ross Bridge HOA Saves Energy and Maintenance with LED OmniMax







**THE ACCLAIMED RESORT COMMUNITY** of Ross Bridge, located in Hoover, a suburb of Birmingham, Alabama boasts the third longest golf course in the world. Elegant amenities, beautiful outdoor spaces and stunning views delight its many visitors and residents. When the developer designed the streets in the Ross Bridge Village Center, they purchased and installed the Lumec Ancesta decorative streetlights that are in operation today.

The stylish pendant and post top fixtures used 175W metal halide lamps, the leading choice at time of construction. The light quality of metal halide is still popular, but the energy consumption and the maintenance to maintain it less so.

Several years ago, Wayne Lewis, a

Ross Bridge Village Center resident who is retired from a local electric utility, noticed the streetlight across from his house had gone out. As part of his previous job, Wayne had designed several street lighting projects for the City of Birmingham, Alabama.

“I worked with the property manager in order to get the lamp in the fixture across the street replaced. It lasted six months and went out again,” said Wayne. “In my experience this seems indicative of a ballast problem. I suggested they replace the ballast, (CONTINUED ON PAGE 10)





which they did. The light lasted a year before the ballast had to be replaced again.”

Over time, other streetlights began to go out, costing the Homeowner's Association a couple hundred dollars each time a contractor replaced a ballast. “Even then, the ballasts didn't last. It was getting expensive.” Wayne spoke with his

contact at Associa-McKay Management, the Ross Bridge HOA management company. “They had already gotten a quote from a company to replace all the lights with LED, but it was going to be expensive. We didn't have the money in the budget, and I had a lot of questions.” With permission from the management company, Wayne consulted with a lead

engineer at Alabama Power concerning their issues. “He suggested to me, if you want to go with LED take a look at the Evluma OmniMax. So I did.”

### Retrofitting HID Decorative Lighting with LED

Like any lighting project it is important to understand the expectations and requirements when it comes to updating decorative outdoor HID lighting to LED. Energy savings is often the leading concern, with maintenance saving second and the aesthetics frequently last. For Ross Bridge, the need to engage a contractor to service the lights put the maintenance savings qualities of LED first. This meant an easy-to-install lamp with robust electronics and a long-life driver in place of a traditional ballast. The need to fit a specific fixture and match the light quality was also a requirement. The aesthetics needed to match community expectations.

For LED retrofits there are multiple options, yet few are long-life, utility-grade products backed by a 10-year comprehensive warranty. Extreme heat can shorten LED lifetime. A lamp's ability to thermally manage itself directly contributes to lifetime. Thermal protection circuitry, the means by which the lamp monitors its own temperature, in addition to active and passive cooling should be taken into account, especially when working with closed fixtures. Reviewing a payback calculator from the manufacturer along with TM-21 data and L70 lifetime expectations can give project managers the information they need. Photometric files including spectral power distribution, or a measurement of the lamps CCT, can indicate overall look and visual performance. A sample test install provides a valuable on-site perspective.

Working with Neil Patterson of Gresco Utility Supply, Wayne obtained two samples of the 70W OmniMax. The lamps were installed at the beginning of 2019. The differences in light quality between the original metal halide lights and the OmniMax were indistinguishable. He also tested a competitor's 80W ‘corn cob’ style lamp. At 80W “the competitor's lamp put out more light, but the labor to install it was significantly greater because the diameter of the lamp was such that it wouldn't fit normally. We would (CONTINUED ON PAGE 12)





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have had to take the fixture apart to install it. The OmniMax easily fit the opening.” A retrofit kit option was also considered from yet another vendor, but the cost was too high and the two-part lamp and driver installation was too complicated. “The OmniMax 10-year warranty was also a plus. The others simply had a 5-year warranty.” Gresco facilitated the final Ross Bridge HOA OmniMax order. “Neil was great to work with,” said Wayne.

### The Evluma OmniMax

Released in 2016, the OmniMax has been thoroughly field-tested by Evluma’s core customer base of electric cooperatives. With the large number of historic and decorative light fixtures on university campuses, planned communities, HOA’s and municipalities, the OmniMax has grown in popularity because of its soft, diffused light, ease of installation and long lifetime. It’s novel radial light engine places the burn center at the same location of a traditional HID filament utilizing the refractive optics and materials as originally intended. The OmniMax comes in six different color temperatures ranging from 2000K-5000K CCT. Ross Bridge chose 4000K for their project.

The OmniMax is 120-277VAC auto-sensing with 20kV/10kA surge protection. It is also available with Evluma’s

patented Photocontrol Failsafe, a feature first implemented in Evluma’s AreaMax street and area light. “Photocontrol Failsafe means never having to replace a failed photocontrol ever again,” said Janine Soper, Evluma’s Regional Sales Manager serving Alabama. “This patented feature saves on maintenance and eliminates unsightly and energy-draining

dayburners, the result of photocontrol failures.” The OmniMax Premium features Photocontrol Failsafe along with the Bluetooth compatibility for ConnectLED, Evluma’s wireless controls app. “With ConnectLED the OmniMax can be quickly dimmed or programmed with a dimming schedule offering further energy saving opportunities,” said Janine.

A total of 158 fixtures were updated from 175W metal halide to 70W LED OmniMax as of March 2020. The Ross Bridge fixtures are controlled by contactors at seven service points, each with a single photocontrol. From 10 to 50 fixtures are controlled by each contactor. Dimming was not a requirement, so the HOA chose the OmniMax Standard. The LED OmniMax will save 60% in energy costs, approximately \$8,535 annually or \$85,535 over the warranted life of the lamp. The expensive maintenance required to change out metal halide ballasts and lamps are a thing of the past, saving \$4,125 annually. Moving to OmniMax from metal halide will save \$12,657 a year, a three year ROI.

Evluma is located in Renton, WA and has been manufacturing street and area lighting for over twelve years. Readers interested in trying out the OmniMax can contact Evluma through their website, [evluma.com](http://evluma.com), to request a mini-pilot program that includes three free units with the purchase of three. □





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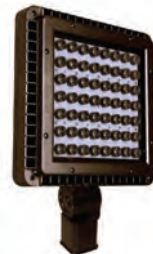
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# Manual Work Meets Modern Automation to Empower Workers with Handicaps



**IN SPITE OF ADVANCING DIGITALIZATION**, the following still applies: Manual workstations are indispensable, because automation is not always profitable with small batch quantities or complex processes. Such workstations are preferred at the Martinshof Werkstatt Bremen, a sheltered workshop for a mixed workforce including people with handicaps, as they are ideally suited for integrating persons with physical or cognitive handicaps into working life.

## New Manual Workstation with Poka Yoke Controller

“Poka Yoke has empowered our workers,” said Miriam Berger, in charge of Production Planning, Martinshof Werkstatt Bremen. “We use automation to avoid mistakes that previously occurred in the production process. Everyone must be able to work smoothly together.”

The Japanese Poka Yoke principle,

which aims at the systematic elimination of human errors, coupled with Mitsubishi Electric’s “Guided Operator Solutions,” ensures high quality for Martinshof’s customers, which include well-known automakers in the region.

“Poka Yoke has empowered our workers,” says Miriam Berger, in charge of Production Planning, Martinshof Werkstatt Bremen.

With some 2200 employees, Werkstatt Bremen is one of city’s largest employers as well as Germany’s oldest and largest workshops for people with and without handicaps. Apart from job order and contract production in the fields of metal and woodworking, electrical assembly, filling, and packaging, Werkstatt Bremen employs 500 workers alone in the automotive business sector, and has been supplying local automakers for more than 30 years.

Handke Industrie-Technik, a long-standing supplier to Werkstatt Bremen of manual workstations, and a premium solution partner of Mitsubishi Electric, recognised the unique opportunity. Together with Mitsubishi Electric, Handke developed a Poka Yoke solution for adapted working. The prototype of the error-free workstation

(CONTINUED ON PAGE 18)



# BEST OF THE REST

## Megger DET24C Clamp-on ground tester

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That's just a few of the features of the Megger DET24C clamp-on ground resistance tester.

The DET24C is an advanced clamp-on ground tester used for measuring resistance of ground rods and associated installations. Hard-to-reach ground rods are easily accessed with the unit's short body length, a unique pre-test hold function, and display backlight for low light environments.

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- Automatic noise current warning safety feature
- Resistance and current ranges – auto ranging
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- Includes PowerDB Lite download software

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Reference Code: DET24-EPS-AUG

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convinced the customer, and was installed in the production line. Since May of 2018, a total of four identical zero-error workstations are in use for automotive parts production.

### Integrating On-site Technology and Visualization

“The main challenge of this project involved the integration of existing technology into the new error-free workstations,” said Nils Knepper, Senior Product Manager Modular PLC/Software at Mitsubishi Electric Germany. “However, thanks to the interfacing features of our Poka Yoke controller, this was not a problem.”

The MELSEC iQ-F series PLC, installed on-site in a small control cabinet, is the intelligent, individually configurable and expandable heart of the solution that controls the picking and assembly sequences. Apart from Mitsubishi Electric’s own components, the system can also handle third-party sensors and actuators. In this case this included the digital torque wrench and a system for industrial image processing. The connection of a barcode printer is being implemented, and thanks to existing conventional interfaces, this can



be done easily by the PLC.

“During the design of the user interface, Mitsubishi Electric was highly flexible, and took all our requirements into account. Because many of our employees cannot read very well, we make use of smileys and other symbols,” explains Miriam Berger. “In addition to process reliability, the Poka Yoke workstations have the great advantage for us, unlike the past situation, as practically any employee can now do the job.” The supporting visualization mentioned uses a 10-inch touchscreen terminal connected in the background to the Poka Yoke controller.

The hardware and software solution from Handke and Mitsubishi Electric deliver simple scalability, convenient configuration, programming and commissioning as well as comprehensive connection possibilities (including MES and ERP). And as soon as freedom from errors is achieved, and the technical potential is available, Werkstatt Bremen will investigate whether the buffer store can be dispensed with in the future, so that after assembly is completed the parts can be directly shipped »in time« to the automaker.

Thanks to the Poka Yoke controller, existing technology, like a digital torque wrench in this case, can easily be integrated into the error-free process.

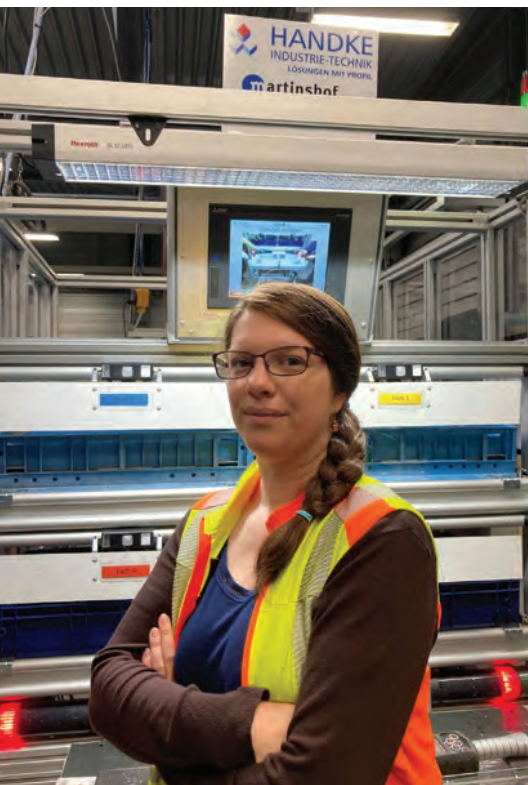
A further advantage is that we can use

pictures to provide instructions. This especially helps workers who have reading or writing disabilities.

### Wide Range of Components for Individualization

“The need to prevent errors exists everywhere during production and assembly,” remarks Andreas Kebbel, Managing Director of Handke Industrie-Technik. »What is most important is the quick and flexible adaptation to the needs of the persons working there, and to the requirements of the process.«

That is why Mitsubishi Electric and Handke offer their solution in the form of a modular system with a wide range of components and interfaces for operator guidance. Amongst others, these include mechanisms to ensure the correct picking of parts, e.g. light barriers, pick-to-light push buttons (alternatively: pick-to-voice), barcode scanners, and proprietary pick-to-door devices with stroke switches. Moreover, there are monitoring devices such as electric screwdrivers with torque & angle detection, plus vision systems as well as opportunities for robot integration. HMIs (Human Machine Interfaces) from Mitsubishi Electric’s GOT2000 series are used for displaying the individual process steps, offering direct connectivity to the Poka Yoke controller, and meeting every display requirement (CONTINUED ON PAGE 20)







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from text through graphical symbols up to animations and augmented reality. Depending on requirements, the latest generation iQ-R or iQ-F PLCs can be used as controllers for the guided manufacturing

solutions. Mitsubishi Electric's Guided Operator Solutions can be integrated in to production systems, so that workstations can be networked and resources controlled and monitored in realtime. □



### About WERKSTATT BREMEN

The Martinshof workshop in Bremen, Germany, is an in-house company of the City of Bremen. It is a recognized workshop that offers work and living opportunities for people with disabilities. The centerpiece is the Martinshof workshops, which manufacture various items in line with market requirements under a framework of professional support. The Bremen workshop employs around 2,200 people making it one of the largest employers for people with disabilities in Germany.

For more information visit (German language page) <https://www.werkstatt-bremen.de/>

### About Mitsubishi Electric Automation, Inc.

Headquartered in Vernon Hills, Ill., Mitsubishi Electric Automation, Inc., offers a wide range of factory automation products, solutions, training and support services for the industrial and commercial sectors. A U.S. affiliate company of Mitsubishi Electric Corporation, Mitsubishi Electric Automation represents more than 75 years' experience in the automation industry. A broad product portfolio includes programmable automation controllers (PAC), programmable logic controllers (PLC), human machine interfaces (HMI), variable frequency drives (VFD), servo amplifiers and motors, control software, computerized numerical controllers (CNC), motion controllers, robots and low-voltage power distribution products. The company takes its solutions on the road with the 53-foot long Solutions in Motion mobile showroom that appears at tradeshow, training seminars and other events across North America. Additional information about Mitsubishi Electric Automation is available at [us.MitsubishiElectric.com/fa/en](http://us.MitsubishiElectric.com/fa/en).

In addition to factory automation, Mitsubishi Electric US group companies' principal businesses include semiconductor devices, automotive electrical components, elevators and escalators, heating and cooling products, electric utility products, and large-scale video displays for stadiums and arenas. Mitsubishi Electric US group companies have 38 locations throughout North America with approximately 4,000 employees.



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## New ARCHON Double-Ended Grow Light System



signed with the grower in mind for safety, ease of use and superior yielding performance.

The unique optical design of the fine hamertone texture provides more reflective surface area, resulting in more intense uniformity than competitive reflectors.

Photometric performance was increased by reducing the space between the lamp and reflector intersection, minimizing light loss. Ballasts can be installed vertically, horizontally or remote mounted.

“The ARCHON DE confirms our commitment to innovation and safety in the horticultural market,” said Heather Mc-

Cune, Vice President, Sales Operations. “Our goal is continual product improvement, and the ARCHON DE represents the next evolution of the double-ended grow light system.”

Growlite’s team of engineers have developed a patented industry leading socket design that provides safety from electrical shock and ensures the accurate installation of the lamp. The lamps are easily installed in the SafeDElock™ socket from the top of the unit and require the user to rotate the lamp 172° to initiate an electrical/power connection. The SafeDElock™ socket also eliminates the risk of arcing inside the socket due to improper installation.

For more information about the ARCHON from Growlite – <https://growlite.com/archon-de/>.

Barron Lighting Group, the parent company to Growlite indoor and greenhouse horticultural lighting, announces the addition of the ARCHON DE grow light system featuring the SafeDElock™ socket (Patent No. 10,720,741). The first and only UL 8800 double-ended reflector on the market, the ARCHON DE was de-

## Barron Launches New Growlite Website!

Barron Lighting Group, the parent company to Growlite indoor and greenhouse horticultural lighting, announces the launch of its redesigned website. The new site features a streamlined, modern design, improved functionality, and easy access to essential information.

“Our primary goal during the redesign process was to create a more valuable, user-friendly and responsive resource across all platforms and devices,” said Heather McCune, Vice President, Sales Operations. “We wanted to focus on making it easier for our customers to learn and locate valuable information about our horticultural lighting solutions for their particular application.”

Growlite’s new website will be updated on a regular basis with product launches, regulatory changes, and updated product information.

Please visit <https://growlite.com> to learn more.



### ABOUT BARRON LIGHTING GROUP:

**Barron Lighting Group**, based out of Glendale, Arizona, manufactures a comprehensive line of lighting fixtures and solutions for commercial and industrial applications and is the parent company to four brands: **Exitronix** life-safety and emergency lighting, **Trace-Lite** indoor and outdoor commercial and industrial lighting, **specialtyLED** commercial and decorative lighting, and Growlite indoor and greenhouse horticultural lighting.





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# Liquatite® Conduit Types LA, ZHLA, and CBLA now CSA Certified “Heavy-Duty”

ELECTRI-FLEX COMPANY, Roselle, IL, announces product Types LA, ZHLA, and CBLA now conform to C22.2 No. 56-17 Annex A “Heavy-Duty” for CSA Certification. The “Heavy-Duty” Annex requires liquidtight flexible metal conduit to pass additional tension, cold flexibility, connector compatibility, and crush tests.

The Heavy-Duty Difference means that these conduit types passed vigorous testing, above and beyond standard CSA and UL 360 standards.

- Tension - Withstands greater tension force.
  - Tested to 500 lbs. which is a 66% greater force applied versus standard CSA and UL testing.
- Cold Flexibility - Superior flexibility in cold temperatures.
  - Placed in a freezer for 4 hours, 300% longer cold exposure and then wrapped around a smaller mandrel with a 30-37% tighter bend radius.
- Connector Compatibility - Stronger connector attachment.
  - Pulling force of 350 lbs., which is 133% greater force applied versus UL testing.
- Crush - Excellent crush strength.
  - Meets the same tough standards as UL, 1,500 – 2,000 lbs. depending on conduit diameter.

Liquatite® products that meet CSA Annex A “Heavy-Duty” include Types LA, ZHLA, CBLA and CSA. Only conduit trade sizes ½” through 4” qualify for the (HD) “Heavy-Duty” designation.

Type LA is a UL Listed, CSA Certified, general purpose, flexible steel conduit that



offers outstanding protection against wet and oily conditions. Working Temperatures: UL: -30°C to 80°C Dry / 60°C Wet / 70°C Oil and CSA: -30°C to 75°C Air / 75°C Oil

Type ZHLA is a UL Listed, CSA Certified, low fire hazard solution conduit, offering halogen-free, low smoke, and low flame spread properties. Working Temperatures: UL: -40°C to 80°C Air / 60°C Wet / 70°C Oil and CSA: -40°C to 60°C Dry / 60°C Oil

Type CBLA is a UL Listed, CSA Certified, Computer Blue LA, ideally suited for computer rooms and data center installa-

tions. Working Temperatures: UL: -30°C to 80°C Dry / 60°C Wet / 70°C Oil and CSA: -30°C to 60°C Air / 60°C Oil

To learn more about The Heavy Duty Difference, visit [www.electriflex.com](http://www.electriflex.com), email [mktg@electriflex.com](mailto:mktg@electriflex.com), or download the CSA Certified “Heavy-Duty” Conduits sales sheet at [www.electriflex.com/resource-library/](http://www.electriflex.com/resource-library/). □



## ABOUT ELECTRI-FLEX COMPANY:

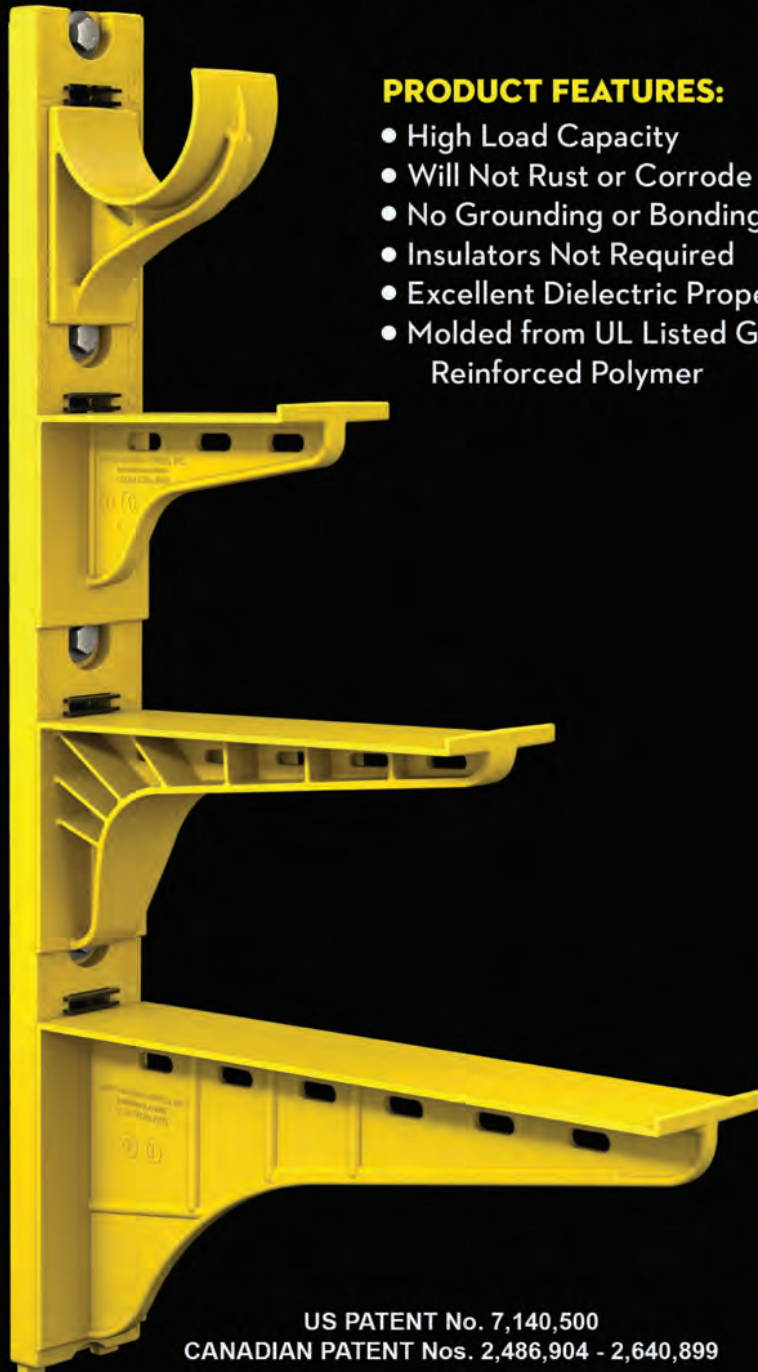
Electri-Flex Company, a leader in electrical conduit design and manufacture for 65 years, produces Liquatite®, the most diverse line of liquidtight flexible electrical conduit in the industry. The company offers custom design, engineering, quality assurance and testing capabilities. For more information on Electri-Flex Company, call (630) 529-2920 or (800) 323-6174; fax: (630) 529-0482; e-mail: [mktg@electriflex.com](mailto:mktg@electriflex.com); visit: [www.electriflex.com](http://www.electriflex.com); or write: 222 West Central Avenue, Roselle, IL, 60172-1994.



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HDL Arm Lock shown with  
RA04 Arm and CR36-B Stanchion



3HDS - 3" throat saddle shown with  
a cable secured by cable ties.



RA08 - 8" arm shown with three  
cables secured by cable ties.

US PATENT No. 7,140,500  
CANADIAN PATENT Nos. 2,486,904 - 2,640,899

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# Polywater names Tom Fredericks Global Business Development Director

*New role expanded to include Canada and positions company for global expansion*

Polywater, the Stillwater, Minnesota-based global, specialty chemical manufacturer for the electrical and telecommunications industries, today announced the promotion of Tom Fredericks to general manager/vice president USA and Canada and global business development director, Electrical division. Fredericks most recently was vice president and general manager with Polywater's Electrical Division. He will continue reporting to Polywater's president Erik Freyser.

In his new role, Fredericks will lead sales and marketing, and product development in partnership with the company's lab and strategic planning, with a view toward global expansion of Polywater's electrical products and services. He brings more than 30 years of experience to the position.

"Polywater has had exceptional product introductions and customer relationships in the U.S. electrical markets, and now is the time to replicate those efforts in Canada and beyond. Tom is professionally qualified to take on this challenge to fuel growth on global level," said Polywater president Erik Freyser. "He has proven sales and marketing leadership skills which will be integral in developing a bright future for the company."

"Metaphorically speaking, due to my longevity with the company and commitment to its growth, Polywater lubricant is in my veins," said Fredericks. "Having spent more than three decades working in sales and marketing and having a deep understanding of our customers, I am excited to be on the cutting edge of helping the company expand its global reach."



Tom Fredericks

Polywater's president said he also believes that collaborating with various markets around the world, helps the company develop an understanding the needs of those regions. This is critical to Polywater's success. □

**ABOUT POLYWATER:** Helping realize a better-connected world. Polywater helps companies in the electrical and communications industries find better ways to overcome specific, field-based infrastructure challenges. For more information visit [polywater.com](http://polywater.com).

# WAGO introduces new Product Manager for DIN Rail Terminal Blocks

WAGO is pleased to announce the promotion of Clayton Windsor to Product Manager -- DIN rail mount terminal blocks. Windsor has held the position of Product Specialist for Marking and Tools at WAGO for the past two and a half years.

"We are excited to promote Clayton to the position of Product Manager," says Dean Norton, VP of Marketing. "He has tremendous passion for all that he does which will translate well in his new role."

"WAGO has always been, at its core, a

terminal block company. Through innovation and high quality, this product line has grown year over year. My goal is to do my part to continue that trend, while continuing to learn and grow within the industry," says Windsor.

Please join us in congratulating Clayton on his new role with WAGO Corporation.

To keep up on the latest news about WAGO, visit [www.wago.us/news](http://www.wago.us/news).

For more on the latest from WAGO, visit [www.wago.us/press-contact](http://www.wago.us/press-contact).



Clayton Windsor

**ABOUT WAGO:** Innovation is at the heart of everything we do at WAGO. From our pioneering CAGE CLAMP® spring pressure connection technology to our extensive range of Interconnect, Interface and Automation solutions, such as the field-bus independent WAGO-I/O-SYSTEM, our customers count on the unconditional performance and reliability of our products to ensure the safe, efficient operation of their systems every time. For additional information, visit [www.wago.us](http://www.wago.us). Contact WAGO at 1-800-DIN-RAIL or [info.us@wago.com](mailto:info.us@wago.com).



# Fire Rate Low Profile LED Downlights

# IN SECONDS

INTRODUCING THE NEW

**FF109-250 AND FF109-200**

**Fire Rated LED Light Covers**



FF109-250 AND FF109-200



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## WTA Series Adjustable LED Wallpack from Barron Lighting Group

Barron Lighting Group, the parent company to Trace-Lite indoor and outdoor commercial and industrial lighting, announces the addition of the WTA Series adjustable LED wallpack.

“Barron Lighting Group is thrilled to announce the newest lighting solution to our product family – the DesignLights Consortium® (DLC) PREMIUM Qualified WTA Series adjustable LED wallpack. The WTA’s unique hinged back box isolates drivers from LEDs allowing for easy access to drivers as well as includes three conduit entry points, one on the top of the fixture and two on the sides. The housing can be adjusted in 10° increments from 0° to 90° for forward throw, ideal for illuminating retail entryways, schools, medical complexes, commercial buildings, and multi-family properties,” said Heather McCune, Vice President, Sales Operations of Barron Lighting Group.

The WTA Series features a slim, compact, energy-efficient adjustable wallpack in lumen packages ranging from 3600 lumens to over 10,500 lumens and includes Type III distribution pointing down. This adjustable wallpack allows the user to aim and set the fixture from 0° (pointing down) up to 90°, allowing for light to be aimed where it is needed. The WTA has efficacies up to 133 LPW and provides over 70% energy savings compared to HID technology.



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

## Emerson Introduces New Greenlee® GRE-6: One Tool to Cut Wire, Crimp Connectors and Punch Electrical Boxes

*Patented QuickChange System™ increases tool versatility on the job*

Electrical workers searching for versatility with a multi-functional tool to cut wire, crimp connectors and punch electrical panels now have a practical option with the new Greenlee GRE-6 Interchangeable Head 6-in-1 Cable Termination Tool, powered by a Makita® battery. The GRE-6 is a 6-ton hydraulic tool with six interchangeable tool head options and is backed by the Greenlee Gator® seven-year warranty.

“The GRE-6 is ideally suited for electrical troubleshooters or maintenance professionals that need a variety of tools with hydraulic power,” said Ryan Berg, Product Manager, Greenlee for Emerson. “GRE-6 provides that versatility by allowing the ability to quickly switch tool heads and reduces time wasted going back and forth to search for multiple tools. It’s one tool that can do the job of three with efficiency and precision.”

Additionally, the GRE-6 reduces the cost of tool ownership and saves storage space. Available separately or as a kit, the QuickChange System gives operators the ability to quickly and easily switch heads. Head options include:

**CU/AL Scissor Cutting Head** - Designed for cutting up to 750 kcmil (MCM) copper/aluminum building wire.

**ACSR Cutting Head** - Capable of cutting up to 477 kcmil (MCM) ACSR and up to 3/8-inch guy wire.

**6-Ton Quad-Point Crimping Head** - Classified to UL 1976 for copper connectors and wire from #8AWG to 750 kcmil (MCM) and aluminum connectors and wire from #8AWG to 500 kcmil (MCM).

**6-Ton Service Drop Crimping Heads (O and BG configurations)** - For use with:

Copper Taps: #10 Solid – 2/0 Stranded

AL and ACSR Taps: #14 Solid – 4/0 ACSR

Stirrups: #6 – 4/0 ACSR

Tension Splices: #10 Stranded – 4/0 ACSR

Lugs and Splices: #8 – 350 MCM AL, 500 MCM CU

Service Entrances: #10 Stranded – 4/0 ACSR

**Knockout Punch Head** – Punches ½-inch to 4-inch holes in 12-gauge mild steel and 14-gauge stainless steel. The 360-degree head rotation increases maneuverability. Accessories include draw studs and spacers.

A Makita® 18-volt LXT® Lithium-Ion 2.0Ah battery system provides more run time per charge. The powerful battery reaches a full charge faster when using the Rapid Optimum Charger (sold separately).



**For more information, visit  
[emerson.com/professionalttools](http://emerson.com/professionalttools)**





- Three-part insulation with underlayer on the pliers and wire stripper provides a warning sign that insulation may be compromised; VDE Certified
- 9" Side-Cutting Pliers (2139NEEINS) feature induction hardened cutting knives
- 8" Diagonal-Cuttings (20028EINS) cut ACSR, screws, nails and most hardened wire
- Wire Stripper (11054EINS) strips and cuts 8-16 AWG solid and 10-18 AWG stranded wire and cleanly shears 6-32 and 8-32 screws
- Slim tip #2 Phillips and 1/4-Inch Cabinet tip screwdrivers allow for greater access into tight spaces
  - Insulated screwdriver blades are flush with the tip to help reduce nicking insulation
  - Cushion-Grip screwdriver handles for great torque and comfort

"Klein Tools' goal in assembling this 5-piece kit was to provide professionals with a set of essential insulated tools at a competitive price point," said Tyler Winters, senior product manager at Klein Tools. "This kit covers needs across the board, with the added benefit of meeting or exceeding the ASTM F1505 and IEC 60900 standards for insulated tools."

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

## Klein Tools® Introduces Insulated Tool Kit Featuring 5 Essential Tools

Klein Tools, for professionals since 1857, introduces the 5-Piece Insulated Tool Kit, a new set of essential insulated tools for electricians, featuring two screwdrivers, two pliers (side- and diagonal-cutting) and a wire stripper.

### 5-Piece Insulated Tool Kit (Cat. No. 94130)

- All tools meet or exceed ASTM F1505 and IEC 60900 standards for insulated tools



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## Focal Point Introduces Warm Dim Technology with Expanded 3.5-inch Downlight Offering

*Advanced LED warm dim technology offers specifiers flexibility, superior light quality, and performance*

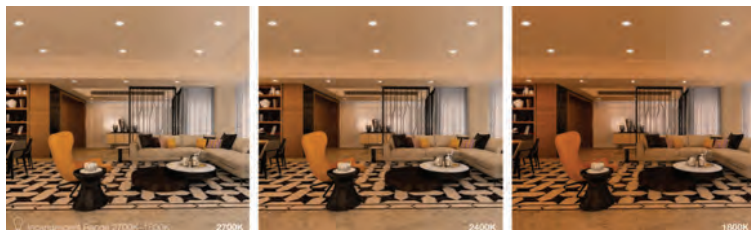
Specifiers, contractors and designers have long recognized the high quality of Focal Point's ID+ family of downlights, wall washers and adjustable accents. The versatile product range gives designers the tools they need to light a space. Now, the Chicago-based lighting manufacturer is announcing the expansion of that line with new features and capabilities being added to the popular 3.5-inch aperture luminaire. These include higher lumen outputs, up to a 15 percent increase in efficacy, new beam spreads, a Color Rendering Index (CRI) of 97, and the sought-after warm dim technology.

New to Focal Point, warm dim brings the nurturing beauty of light to the forefront, allowing the light source's gradual dimming from a warm white at higher brightness levels to a warmer, candlelight color at lower light levels, creating eye-pleasing illumination in any space. Warm Dim is specifically designed for human comfort, creating inviting retail, hospitality, commercial or residential interiors with visual warmth that mimics the glow of incandescent and halogen light sources.

"Our two warm dim spectra have been carefully engineered to closely mimic the black body curves of halogen and incandescent light sources. The halogen spectrum ranges from 3000K to 1800K while the incandescent spectrum dims from 2700K to 1800K, allowing you to choose that which best meets the design intent and usage of each space," says Mike Thornton, Chief Marketing Officer for Focal Point. "Users can modulate the light, from vibrant to soothing, depending on the occasion and time of the day, while maintaining a minimum of CRI 90 throughout the range."

The ID+ 3.5, designed for shallow plenum applications, offers not just a petite footprint, but powerful technology that enables incredible versatility of design. Lumen outputs from 700 to 2100 lumens are customizable using Focal Point's Right Light™ technology; beam distributions that range from narrow to very wide flood (25° to 90°) allow the workhorse downlight to provide an amazing range of lighting possibilities — including a near-perfect rendering of color, with a CRI of 97. Using light to bring out the architecture of a space, and to provide ambient lighting, task lighting, and accent lighting has never been easier.

The new ID+ 3.5 offers aesthetic features that include a range of matching trim styles for both square and round apertures, trimless and overlap styles, including die-cast trims, and brightness control with 50, 60 and 75-degree cut-off trims.



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



## Nora Lighting® Surf LED Surface Mounts Over J-Boxes; Offered in Square or Round

Nora Lighting's surface-mounted SURF LED luminaire has the appearance of a recessed downlight, and is available in contemporary round and square models with sharp corners and recessed baffles for an architectural look.

SURF features a unique edge-lit light guide with embedded honeycomb lens that offers comfortable, glare-free lighting not typically found in surface-mounted fixtures. The luminaire mounts directly over a standard or fire-rated junction box and has a thin 11/16" finished profile. It includes a DC dimmable driver (Triac / ELV).

SURF can be specified in 4" (650lm) or 7" (1000lm) round and 4" (650lm) or 7" (900lm) square. The series is available in a white finish with an alumi-

num back plate that dissipates the heat away from the luminaire.

Color temperatures range from 2700K to 5000K with 90+ CRI. The fixture is ENERGY STAR® certified with a cULus listing for wet locations.

Nora Lighting has served the lighting industry for more than 30 years and is a recognized leader in the development and introduction of LED products. Nora offers one of the industry's most comprehensive lines of LED luminaires, including: commercial, architectural and residential downlights; track and rail lighting; panels and troffers; MLS (multi-lighting systems); linear and under cabinet lighting; RLM, pendants and cylinders; tape lights; step lights; and emergency / exit signs.

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



## Low Resistance Ohmmeter from Megger Delivers Reliable Results with Long Test Leads

*The DLR02 is intuitive, easy-to-use*

Megger now offers a digital low resistance ohmmeter that can deliver reliable results when using long test leads. The DLR02, a 2 Amp handheld tester, is ideal for use in production line testing and industrial applications. This robust and intuitive handheld instrument offers a 'difference meter' that allows for quick data comparisons.

### Long test leads not a problem

Applications that require long test leads are not a problem for the DLR02 as it has a dedicated long test lead mode that optimizes the instrument to work with very long test leads. The unit's long test lead function is able to provide up to 1A of test current into 4 Ohms resistance, making the DLR02, with its optional cable test reel leads, ideal for testing wind turbine and avionic lightning protection applications.

### Difference meter

The easy-to-use DLR02 is equipped with a 'difference meter'. This function allows repetitive measurements to be easily compared with an initial reference measurement. The difference meter translates percentage difference to a needle/pointer movement on the unit's display to make it easier to see the change. This feature is particularly useful for testing series of manufactured products where the nominal resistance value for the product is stored, and the user only needs to note whether products subsequently tested are within the permissible percentage tolerance range.



**For more information, visit  
[us.megger.com](http://us.megger.com)**

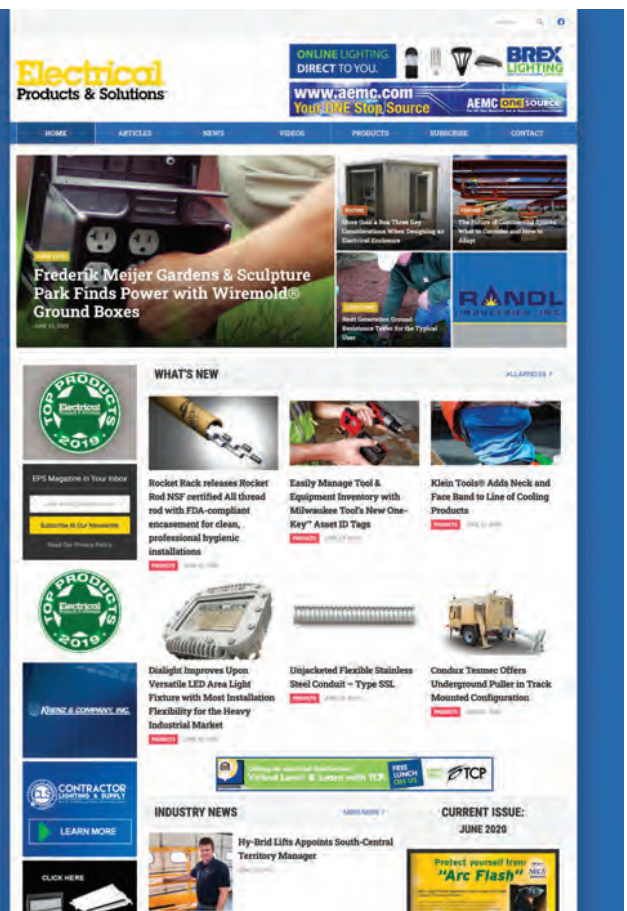
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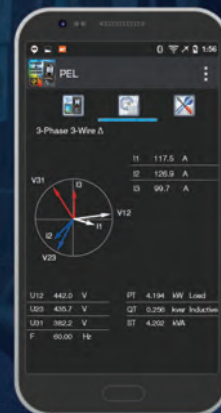
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