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**COVER STORY** Eaton (CONTINUED FROM PAGE 7)



shape can help businesses better optimize performance, service life and efficiency. New lithium-ion batteries, for instance, can serve as a valuable replacement option for traditional valve-regulated lead acid (VRLA) batteries in UPSs. They are smaller and lighter, offering built-in monitoring and ease of maintenance with the ability to last longer and recharge faster. They have an eight-to-15-year operating life, compared to traditional UPS batteries, which generally need to be replaced every three to six years.

Power management software is also advancing with new capabilities for upgrading to real-time data and enhanced performance insights that can strengthen backup power schemes. These systems can be paired with predictive analytics services like Eaton's PredictPulse, which enable remote monitoring to help anticipate the failure of critical components. In shifting the maintenance process from a reactive to proactive one, these systems ensure that service technicians are called on site only when their assistance is absolutely necessary — another important factor in minimizing unnecessary in-person interactions. Repairs or updates can be scheduled at convenient times, avoiding emergency service calls, and utilizing existing maintenance windows.

In the remote age, it's also important to consider virtualization infrastructure to ensure systems are fully prepared for po-

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**Advancement continues**

As electrical professionals develop backup power strategies for their customers, they should keep in mind that innovations in power equipment taking

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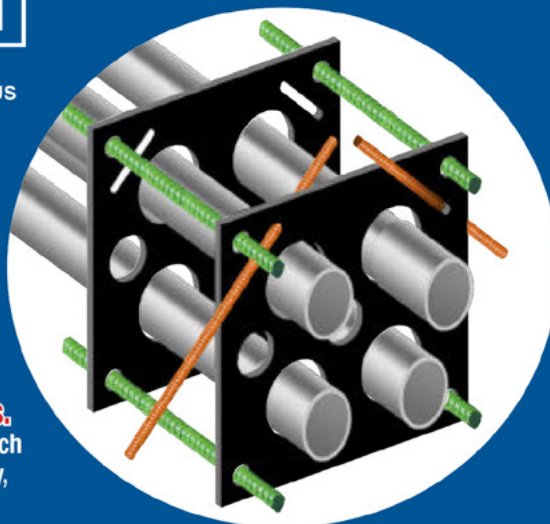
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# How Digital Transformation is Redefining Backup Power

*NEW SOLUTIONS THAT CAN HELP SAFEGUARD SYSTEMS IN EVOLVING IT ENVIRONMENTS*

BY ED SPEARS



Digital transformation was put on the fast track as businesses adjusted amid the COVID-19 pandemic. In just two short years, advancements in distributed IT networks and cloud infrastructure shifted from competitive advantages to business requirements to accommodate new remote work models and streamline operational functions in the face of pandemic-related challenges.

Digital-centric IT strategies will continue to gain steam as businesses look beyond the pandemic. Electrical professionals should consider how this changing frontier impacts backup power demands so they can be in the best position

to design systems that support evolving business requirements. In this article, I'll revisit some central backup power technologies and advancing solutions to keep in mind for the future.

## **A stable backbone**

In the transition to digital and remote IT infrastructure, foundational elements such as uninterruptible power supplies (UPSs) and generators remain essential in safeguarding systems against downtime from unplanned outages. Power management software has now become an even more critical piece to the puzzle, enabling staffs (CONTINUED ON PAGE 8)



to oversee and maintain their assets even without having someone on site at every IT facility. Software applications integrate with power management devices like UPSs to enable a proactive approach to mitigating power events before they cause damaging outages.

Combined with UPSs and power management software are rack enclosure power distribution units (PDUs), which offer advances that professionals should be aware of in light of the escalating IT demands many businesses face. As rack environments face increasing demand for power density, new PDUs can help make power distribution to critical infrastructure more efficient.

### Advancement continues

As electrical professionals develop backup power strategies for their customers, they should keep in mind that innovations in power equipment taking

shape can help businesses better optimize performance, service life and efficiency. New lithium-ion batteries, for instance, can serve as a valuable replacement option for traditional valve regulated lead acid (VRLA) batteries in UPSs. They are smaller and lighter, offering built-in monitoring and ease-of-maintenance with the ability to last longer and recharge faster. They have an eight-to-15-year operating life compared to traditional UPS batteries, which generally need to be replaced every three to six years.

Power management software is also advancing with new capabilities for upgrading to real-time data and enhanced performance insights that can strengthen backup power schemes. These systems can be paired with predictive analytics services like Eaton's PredictPulse, which enable remote monitoring to help anticipate the failure of critical components. In shifting the maintenance process from a reactive to proactive one, these systems ensure that service technicians are called on site only when their assistance is absolutely necessary – another important factor in minimizing unnecessary in-person interactions. Repairs or updates can be scheduled at convenient times, avoiding emergency service calls, and utilizing existing maintenance windows.

In the remote age, it's also important to consider virtualization infrastructure to ensure systems are fully prepared for po-

tential outages. Integrating power management solutions with prevalent virtualization management platforms like those from VMware, Cisco, NetApp, Dell EMC, HPE, Nutanix and Scale Computing can extend the availability of critical services. And, with solutions that align power management and virtualization software, technicians can manage physical and virtual servers along with power management devices all from a single console.

### Be prepared for cyberthreats

As technologies become more interconnected, it increases the number of potential entryways for malicious activity, and that may include power management. In fact, the Cybersecurity and Infrastructure Security Agency (CISA) and Department Energy recently released a public advisory regarding cybersecurity issues for some internet-connected UPS devices and urged organizations to take action to mitigate potential threats.

Implementing policies and procuring technologies can help deliver a more effective level of security as systems become interconnected. To that end, the global safety science organization UL has developed and published a standard, UL 2900-1, that applies to software cybersecurity for network-connectable devices. The standard provides criteria and methods for (CONTINUED ON PAGE 10)





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evaluating and testing for vulnerabilities, software weaknesses and malware, as well as requirements regarding the presence of security risk controls in the architecture and design of a product. The International Electrotechnical Commission (IEC) has also released cybersecurity certifications such as ISA/IEC 62443 to give companies a resource to address security vulnerabilities in industrial automation and control systems.

Purchasing equipment that has been certified using these standards can provide greater peace of mind as new systems are added to the network. For example, at the power management level, there are network management cards that can help connect devices like UPSs and better protect against breaches, with Eaton being the first company to have UPS connectivity devices certified to meet both UL 2900-1 and IEC 62443-4-2 cybersecurity standards. As the proliferation of smart, connected devices link together more elements of business and IT operations, electrical professionals should look to partner with technology and solution providers that are willing to be proactive in addressing IoT and security risks.

There are a number of other practical steps professionals can take to protect devices across their connected infrastructure. This includes using a firewall and encrypting information; conducting routine security assessments; regularly updating antivirus software and antispyware; using advanced email filtering; establishing powerful password policies and end point protection; and offering employees cybersecurity awareness training. Physical security measures such as using security locks on IT racks can also help to ensure that only authorized personnel have access to IT equipment.

### The future is now

As companies move forward amid the new normal, digital transformation shows no signs of slowing down. The increasing reliance on remote technologies and cloud infrastructure, coupled with advancements in IoT and automation, will only accelerate the transition. Electrical professionals should take heed of this trend and understand the impact it has on power requirements for businesses.

While the landscape is changing fast,



companies have many resources at their disposal. Electrical professionals can play a valuable role in helping navigate this process and ensure IT teams are doing their due diligence. With a strategic

approach that integrates core components and latest advancements in backup power, electrical professionals and their customers will be well-positioned for the next stage of power evolution. □

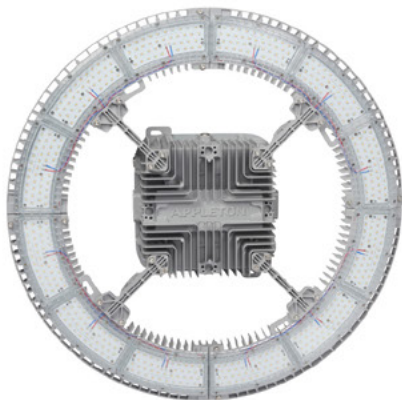
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# Updated Arc Flash PPE Hoods and Face Shields Improve User Comfort and Safety

Ventilation, wider field of vision, and lift-front shields keep users safer than ever from arc flash hazards

BY FRANKO GREGORY AND DWAYNE SOMERS,  
CEMENTEX PRODUCTS, INC.

**ARC FLASH INCIDENTS** are of major concern for personnel working with energized equipment. When first adopted by OSHA in 2006<sup>1</sup>, the arc flash Personal Protective Equipment (PPE) worn by these personnel was often hot, uncomfortable, and cumbersome. Innovations in arc flash PPE, however, are maintaining and even increasing user safety while also improving users' experience of comfort and visibility. Improved ventilation systems and the addition of hi-calorie lift front face shields help to reduce the cumbersome nature of PPE while keeping personnel safer than ever on the job.

## Arc Flash Basics

Arc flash incidents can occur in energized equipment due to a number of causes: inadequate safe work practices, faulty insulation, improper grounding, loose connections, defective parts, ground faults in equipment, unguarded live parts, or even small animal incursion. Regardless of the cause, and though rare, arc flash incidents can be very hazardous to personnel working in energized environments, averaging 30,000 incidents every year according to the Industrial Safety and Hygiene News<sup>2,3</sup>.

During an arc flash event, the extreme heat generated by the flash can ignite clothing and cause burns. Depending on conditions, a blast or explosion may occur, leading to further harm. Proper clothing is required to protect personnel working within arc flash boundaries;

while proper clothing resists heat and burns cleanly away, helping to protect wearers' skin, improper attire can melt, causing clothed areas to be burned even more severely than just exposed skin. What's more, arc flashes can lead to UV damage to eyes, hearing loss, extreme pressure on the body, and exposure to toxic fumes.

## PPE Helps Prevent Arc Flash Injuries

Personal Protective Equipment specially designed for arc flash hazard areas can protect workers who are exposed to arc flash events, regardless of their cause. Properly designed PPE takes time to burn cleanly away from the body, thus reducing the likelihood and severity of skin surface burns to personnel. (CONTINUED ON PAGE 14)

This, in turn, increases incident survivability and eliminates the hazards of melting clothing.

Arc flash PPE is regulated to ensure personnel safety. NFPA 70E® Article 130 – Work Involving Electrical Hazards – says, “Employees exposed to electrical hazards when the risk associated with that hazard is not adequately reduced by the applicable electrical installation requirements shall be provided with, and shall use, protective equipment that is designed and constructed for the specific part of the body to be protected and for the work to be performed.”

These regulations state that when in use, arc rated clothing must both cover all ignitable clothing and allow for movement and visibility. The type of PPE required varies by the possible severity of an arc flash event, and thus by voltages of the energized equipment; in highly energized equipment where arc flash events may be severe, hoods and face shields are particularly important for protecting workers heads and faces from burns and UV light damage. These hoods must cover the wearer’s entire neck, while the face shield must wrap around to protect the face, chin, forehead, ears and neck. These hoods and face shields can be very hot and cumbersome, and can be inconvenient to put on and remove as needed during work and breaks or consultations.

### Innovations in Hood and Face Shield Technology

Two innovations in arc flash PPE technology, specifically for hoods and face shields, can help to improve comfort and ease of use in hazardous arc flash environments. These improvements are a ventilation system throughout the PPE suit, and a lift-front face shield integrated into the hood.

The Cementex ventilation system features a durable Kydex™ shell and runs on AA batteries for 6 hours, reaching thirty five CFM.

The ventilation system improves comfort by increasing the amount of overall oxygen flowing suit; what’s more, on the extremely hot days the airflow assists in cooling workers’ skin and thus extending time between water breaks and reducing the risk of overheating.

The other major innovation is in the introduction of lift-front face shields in-

tegrated into arc flash PPE hoods. Take, for example, the lift-front face shields for the hoods in the Cementex Ultralight Series of Arch Flash PPE. The lift-front hoods provide a larger viewing area and provides personnel (who move out of the Arc Flash Boundary) with the ability to lift the face shield. By enhancing the area of view to see potential hazards and users’



peripheral vision, the new lift-front hood design helps to minimize accidental contact with energized, hazardous conductors. Outside the arc flash boundary with the face shield safely lifted, the personnel can consult with supervisors or coworkers, drink water, or allow greater airflow while taking a break without

needing to remove the entire hood. Afterwards, it is simple to pull the face shield back down, return to the work zone, and continue working while adequately protected from arc flash hazards in a timely manner.

Cementex’s lift front hoods remain compatible with its innovative hood ventilation system, thus ensuring the greatest possible safety of personnel in environment around energized equipment.

Any worker who is not diligent in their safety practices could fail to replace the hood to its protective configuration. As a result, retraining personnel to build up habits of securely latching the face shield before entering the arc flash boundary is important to ensuring the greatest possible safety.

Cementex PPE hoods are unique within the Arc Flash Protective Equipment landscape, as the hood completely covers users and is worn over a hard hat, with a headlight available on the top. This hood design enables the use of the ventilation system and provides greater overall protection to users. The lift-front face shield design enhances these innovative hoods even further.

### Arc Flash PPE is Critical to Keeping Personnel Safe

Arc flash PPE is critical to keeping personnel working with energized equipment safe in the occurrence of an arc flash or arc blast hazard. Innovations in arc flash PPE help users to maintain safe practices near energized equipment, reducing the risk of injury, while also providing a more comfortable, easier to use PPE experience. What’s more, these updates to arc flash PPE offerings also help protect users from secondary hazards like dehydration and overheating. The greater field of vision offered by some new arc flash face shields also helps users to maintain better visibility while working with energized equipment, thus reducing the risk of accidents and improving safety as well. □

<sup>1</sup> [https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=interpretations&p\\_id=25540#:~:text=10%2F18%2F2006%20%2D%20Incorporation,70E%2D2000%20into%20OSHA%20standards.](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=interpretations&p_id=25540#:~:text=10%2F18%2F2006%20%2D%20Incorporation,70E%2D2000%20into%20OSHA%20standards.)

<sup>2</sup> <https://www.cdc.gov/niosh/mining/userfiles/works/products/videos/arcflash/afa.pdf>

<sup>3</sup> <https://www.nfpa.org/-/media/Files/News-and-Research/Fire-statistics-and-reports/Electrical/RFArcFlashOccData.ashx?la=en>



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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.electricalsafetyupply.com](http://www.electricalsafetyupply.com), email  
Vince at: [sales@millersafetyltd.com](mailto:sales@millersafetyltd.com)  
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# Vantage and PureEdge Lighting Form Strategic Alliance

*Alliance Brings Together Vantage Lighting Controls and PureEdge Lighting Systems, Creates Dealer Profit Promotion (DPP) with a 5% Discount on Projects Featuring Both Brands*

Legrand's Building Control Systems (BCS) division recently announced its Vantage brand has formed a strategic alliance with PureEdge Lighting. The alliance pairs Vantage's industry-leading, customizable lighting controls with PureEdge's tunable white, ranging from 2200K to 6500K, RGB, and RGB+TW (tunable white) lighting systems.

PureEdge Lighting has been a leader in the lighting industry for over two decades, bringing recessed 5/8" drywall lighting systems to the forefront for both residential and commercial applications. Controlling the lights is a crucial element of a versatile and easy-to-use lighting system.

"With today's intense focus on incorporating innovative and tunable lighting fixtures, the control solution needs to be anything but ordinary," said Amy Hahne, President of Vantage at Legrand, North America. "PureEdge Lighting's portfolio of award-winning options truly stands out in this space, and with this alliance, integrators have Vantage's control solutions that are just as noteworthy and up to the task of dialing in the perfect lighting environment."

As part of this alliance, Vantage Controls and PureEdge Lighting have also introduced the 5+5 Dealer Profit Promotion (DPP). With DPP, projects featuring both Vantage and PureEdge products will receive a 5% discount from both brands when an order is placed. To qualify for the promotion, which runs to



Legrand BCS's Vantage has formed a strategic alliance with PureEdge Lighting.

July 1, 2022, projects must be registered by a dealer or sales rep.

"As a lighting engineer, designer, and master electrician, I am constantly pursuing beautiful design with exceptional functionality. PureEdge strives to give designers the tools they need to light amazing spaces, and lighting controls are an important element in creating the experience when one enters a space. We've been doing this a long time and have integrated tunable white and RGB lighting into almost all of our product lines. Dynamic architectural

lighting is what designers expect. Partnering with Vantage is one more way we can assist users of our lighting systems," said Gregory Kay, Owner and CEO of PureEdge Lighting.

With dynamic, human centric lighting programming readily available and stunning keypad aesthetics, Vantage provides best-in-class lighting control. PureEdge provides unique and innovative lighting systems that have won multiple lighting design awards. Together, these two companies provide exceptional light control. □

## ABOUT PUREEDGE LIGHTING

PureEdge Lighting, founded in Chicago by Gregory Kay in 2004, manufactures architectural, low-voltage LED lighting systems for indoor and outdoor spaces that empower you to not only design your space, but also the fixtures you envision. Modern, innovative, and completely customizable, PureEdge Lighting creates architectural lighting solutions influenced by simplicity and elegance based on the principle that light affects human emotion. PureEdge is known for class 2 wiring, low-voltage lighting systems that are easy to install. PureEdge has a strong presence in hospitality, residential, healthcare, and retail.







## Compact and Easy to Install DC UPS for Harsh Industrial Locations



*SolaHD™ SDU DC - B Series DIN Rail UPS*

The SolaHD™ SDU DC - B Series DIN Rail UPS by Emerson are perfect for mitigating power quality issues, minimizing loss of data and downtime.

The SDU DC - B UPS combines an industry leading compact design, wide operation temperature range -15 °C to +50 °C (+5 °F to +122 °F), enhanced communication and unique installation options to solve common application problems.

Learn more at: [www.solahd.com](http://www.solahd.com)

**SOLAHD™**

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**CONSIDER IT SOLVED™**

# NSI Industries Adds New Florida Representative for Bridgeport Fittings

*Lake Mary, FL-Based CSA Electrical Sales Will Be Responsible for NSI's Bridgeport Fittings Brand in the Florida Territory*

NSI Industries, LLC, a leading provider of electrical product solutions for more than 45 years, announced recently that Lake Mary, FL-based CSA Electrical Sales will represent the company's Bridgeport Fittings brand in the Florida territory, which took effect April 1, 2022.

"As NSI and Bridgeport Fittings continue to grow, we needed a partner in the vitally important Florida territory that knows the market and customer base intimately, and CSA Electrical Sales is the

perfect fit," explained Tom Wallace, EVP Sales for NSI. "CSA has a long history of success in Florida and we are confident that they will provide the service and support to our distribution partners that they have come to expect."

CSA Electrical Sales exists by the approval of its customers and the manufacturers it represents. Its function is to serve its' customers' needs by providing them with flawless service and quality products.

"CSA is thrilled to be joining the Bridgeport Fittings team," said Jeff Cleveland, CSA president. "Our agency was founded on the proposition of selling products based on benefits and features. The Bridgeport product offering with its many innovative, problem solving, and time saving products is a perfect fit. We look forward to a long term and highly successful partnership."

For more information on NSI, please visit [www.nsiindustries.com](http://www.nsiindustries.com). □

## ABOUT NSI INDUSTRIES, LLC

NSI's core philosophy is Making Connections. Focused on the electrical, building technology, and HVAC markets, NSI connects distributors to products, services, and technologies by providing a fresh perspective and caring approach that drives smart solutions. The driving force behind a stable of market-leading brands and a large breadth of products, the company's primary job for more than 45 years has been to fulfill the needs of distributors and their customers. By staying grounded in the principles of service and value, NSI continues to deliver high-quality, industry-advancing, and comprehensive product solutions that enable growth. NSI has many well-respected brands, including Bridgeport Fittings®, Platinum Tools®, Polaris®, TORK®, WarriorWrap® Professional Tape, TERMINATOR™ Premium Wire Connectors, RHINO Safety™, TechLogix Networkx, and Metallics. For additional information about NSI Industries and our family of brands, visit [www.nsiindustries.com](http://www.nsiindustries.com).



# Electri-Flex Organizes 1,000 Easter Meal Donation Food Drive

ELECTRI-FLEX COMPANY, Roselle, IL, has organized a 1,000-meal food drive to benefit local DuPage County, Illinois residents this year's Easter Holiday. Large donations were collected from Electri-Flex employees, the Roselle Police Association, and others, including 1,000 hams, cans of corn and green beans, boxes of mashed potatoes, bags of stuffing, and aluminum pans for roasting. The food drive is sponsored by Electri-Flex

Company, the Roselle Police Association Foundation, the DuPage County Sheriff's Office, Precision Stamping Products, Inc., Fates, Bodily & Parker PLLC, Lisle Township, and SCARCE.

The Kinander Family, owners of Electri-Flex, pride themselves on giving back to the local community through food donation events. This marks the 5th consecutive donation event held in the past two years. □



## ABOUT ELECTRI-FLEX COMPANY

Electri-Flex Company, a leader in electrical conduit design and manufacture for over 65 years, produces Liqueatite®, 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.







## Innovative Solution for Harsh Environments and Hazardous Locations



*SolaHD™ SDU AC - B Series  
DIN Rail UPS*



*Active  
Comm Card*



*Passive  
Comm Card*

The SolaHD™ SDU AC - B Series DIN Rail UPS by Emerson is perfect for mitigating power quality issues, minimizing loss of data and downtime. The SDU AC - B combines an industry leading compact design, wide operation temperature range, enhanced communication and unique installation options to solve common application problems.

- **Wide temperature range to protect against shortened battery life**, the field replaceable battery rated from 32 °F to 122 °F (0 °C to 50 °C).
- **Optional network communications that support all major protocols**, including EtherNet/IP™, Modbus®, Profinet or EtherCAT.

Learn more at: [www.solahd.com](http://www.solahd.com)

**SOLAHD™**

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**CONSIDER IT SOLVED™**

## Milwaukee Tool Expands Lineup to Offer High Dexterity Hand Protection

Milwaukee Tool continues their dedication to hand protection by introducing ANSI Cut Rated High-Dexterity Polyurethane Dipped Gloves. These new gloves are constructed of an 18-gauge knit that offers high dexterity with a better fit to help users stay safe and productive while protecting their hands on the jobsite.

According to the Bureau of Labor Statistics, 70% of hand and arm injuries happen while users are not wearing gloves or sleeves. These injuries result in 121,800+ hours of lost work time annually.

“We’ve seen while researching with our users that if gloves aren’t comfortable, they won’t wear hand protection,” says Zach Richman, Director of Product Management at Milwaukee Tool. “Some frustrations we’ve seen that lead to users not wearing gloves is lack of dexterity in detailed applications, hands getting too hot while working, or not being able to use their phone or tablet. To help prevent hand injuries on the jobsite, workers must wear the proper hand protection. At Milwaukee Tool, we are dedicated to bringing innovative safety solutions to our users that solve their frustrations.”

The glove’s thin, lighter, and more breathable 18-gauge knit material and polyurethane dip allow for total mobility and better dexterity when handling small fasteners or manipulating small buttons and switches. A reinforced nitrile coating between the thumb and the forefinger adds durability in a high-wear area to withstand harsh jobsite conditions. The fingertips, knuckles, and palms are equipped with Smart-swipe™ technology to allow the use of touch screen devices without removing the gloves.

Available in ANSI cut levels ratings A2, A3, and A4, these gloves are ideal for finish work, carpentry, electrical work, plumbing, and other fine tasks where cut hazards are present. The gloves have a premium heat transfer logo noting the cut level and feature color-coded wristbands for quick cut level identification, like other Milwaukee ANSI-rated gloves.

Milwaukee Tool’s new High Dexterity Polyurethane Dipped Gloves demonstrate the company’s focus on creating innovative solutions that won’t slow users down, helping them STAY SAFE. STAY PRODUCTIVE™.



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



## Princeton Tec EOS® 360 Headlamp and Flasher Enhances Employee Performance and Safety

The Princeton Tec EOS 360 Headlamp and Safety Flasher provides powerful hands-free task lighting in low light areas, which improves employee vision and job performance at the worksite. Since it does double-duty as a helmet-mounted safety flasher it is also essential Personal Protective Equipment (PPE) that helps employees be seen, which protects them from vehicle traffic and equipment.

The hardhat mounted PPE is a combination of front facing EOS headlamp and rubberized LED band that provides 360° visibility to minimize collision risk. The headlamp and safety flasher operate independently. So, workers can choose and easily switch between the combination of task lighting and safety lighting they need (headlamp, LED band, or headlamp and LED band).

Mounted on the front of the LED band is the top selling EOS headlamp. The headlamp with Maxbright LED provides 3 brightness levels with 165 lumens in high and a maximum beam range of 72 meters (236 feet). A hinged bracket on the headlamp swivels up and down to direct light.

To ensure maximum safety, the LED band includes constant on and safety flash modes along with highly reflective strips to improve visibility. A slip resistant design

keeps the LED band in place on a standard or wide brim helmet or hard hat.

Designed for rugged industrial use, the EOS 360 Headlamp and Safety Flasher is waterproof to IPX7 standard (not dive rated).

Run time is 4.5 to 51 hours depending on operational mode. The lightweight device weighs 5.75 ounces with 3 AAA batteries (included).

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



# REPAIR CONDUIT IN A SNAP!

No Tape • No Plastic Straps • No Metallic Straps

## NO KIDDING!

*Designed especially for power, communications  
and fiber optics.*



**STEP 1**  
Remove damaged  
conduit



**STEP 2**  
Cut split duct  
conduit to fit



**STEP 3**  
Snap in  
place

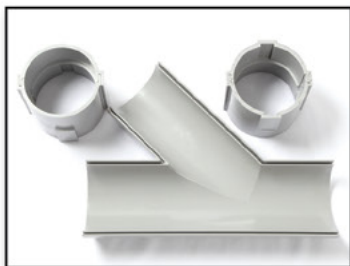
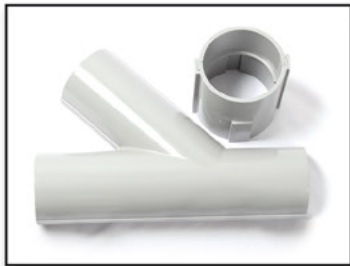


**STEP 4**  
Attach  
adapters



**STEP 5**  
Finish job in  
record time

***"The World Leader In Split Conduit Products"***



**Conduit Repair Systems, Inc.**

*The World Leader In Split Conduit Products*



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## Alloy LED Introduces Mud-In Channels for Seamless Integration Into Ceilings and Walls

- Unique, patent-pending lens design illuminates across the entire surface from edge to edge – no dark edges
- Trimless, recessed aluminum channels allow for unique linear LED lighting design possibilities into wall and ceilings
- Channel design allows for seamless installations wrapping from the ceiling down the wall or for zigzag and other unique configurations

Alloy LED, a leading designer and manufacturer of premium quality LED tape lights, today announced the introduction of the Mudr 1 and Mudr 2 Mud-In Channels, providing seamless integration into ceilings and walls. The aluminum channels feature a unique, patent-pending lens design allowing for even illumination across the entire surface of the lens from one edge to the other edge.

“Compared to other in-wall solutions on the market, we engineered our patent-pending channel lens to illuminate uniformly across the entire lens, eliminating dark edges for a better performance and look,” said Joe Flynn, president, Alloy LED.

Offered in ½-inch and 1-inch nominal widths, the trimless Mudr channels install flush into 5/8-inch drywall, resulting in clean, modern lines of high-impact linear light from a choice of 19 of Alloy LED’s extensive line of 36 white and color-changing tape light solutions.

The thoughtful design allows tape lights to seamlessly wrap from the ceiling down the wall or for zigzag and other unique configurations. The channels are compatible with the company’s standard linking system and are field cuttable. Factory mitre cuts are available through the Alloy LED customization program.

The Mudr channels feature high-quality aluminum construction with a frosted polycarbonate lens, available in 4- and 7-foot kits. The products provide protection from moisture, dust and other elements, while offering a thermally balanced heat sink, cooling and prolonging the lifespan of the tape light.

An ideal solution for offices, hospitality, healthcare and residential environments, the Mudr 1 and Mudr 2 Mud-In Channels allow for endless LED linear design possibilities.



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



## Cementex Announces Belt Pouch Combinations

*High quality insulated tools in a range of configurations to meet any technician’s safe tool needs*

Cementex, the safety tool specialists, announces the availability of Cementex Belt Pouch Tool Combinations, featuring all tools designed for safe use in Arc Flash environments. With 13 different combinations to choose from, there is an ideal Cementex Belt Pouch Combo for any technician.

All tools in the Cementex Belt Pouch Combos feature innovative Cementex double insulation technology. The double insulated tools feature a yellow warning layer underneath the outer orange layer; if the outside insulation is damaged, posing a safety risk, the yellow layer begins to show, and technicians can know that they must replace the tools.

The 13 different configurations of belt pouch and tool kits feature a wide range of tools, including Linesman’s universal crimping, needle nose, and diagonal cutting pliers, various sizes of Phillips, Robertson, and Cabinet screwdrivers, nut drivers, and various task-specialized tools. In addition, customized configurations are also available.

Cementex double insulated tools are tested to 10,000 VAC and rated for 1,000 VAC when working on or around live parts. The pliers comply with ASTM F1505 and IEC 60900 standards, and help meet the requirements of OSHA 1910.331-335, MFPA 70E, and CSA-Z462.

All Cementex products are made in the U.S.A. to the highest standards of quality.

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



# SPP PRODUCTS, INC.

*Productivity and value thru ideas*

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



## IP26 Flat "Big O"

### Box Support Plate



SAVES OVER 1 HOUR PER INSTALLATION

### Prefabricated Assemblies

SAVE More Than \$15.00 per Wall Outlet

PFA3



## IP11

### Trapeze Brackets

Original EZUTB - Size 1/2" thru 1 1/4" Conduit or equal size MC Cable.

SAVE OVER 20 MINUTES PER FOOT



TRAPEZE Eliminates ALL Conduit Clamps!

NECA SHOW STOPPER 1991

## IP28a

PATENTED

Mount Boxes on Both Sides or Between Studs

Strong 16 Gauge Galvanized Steel



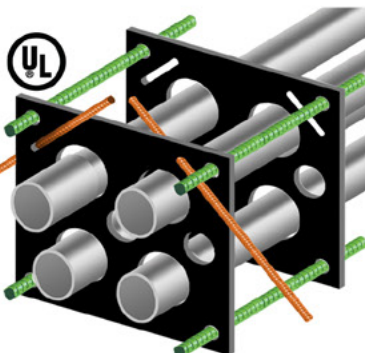
## IP1

### QwikDuct HDPE CUSTOM TEMPLATES

LOWER CONDUIT FROM ABOVE  
NO WORKERS BELOW PREVENTS INJURIES OR DEATHS  
4,000 PSI TENSILE STRENGTH AT BREAK  
OVER 12X FASTER THAN SPACERS & CHAIRS

PATENT PENDING

NECA SHOW STOPPER 2000



## Conduit & Box Support Plates

### IP5

PATENTED

### \* IP6

PATENTED

### \* IP6c

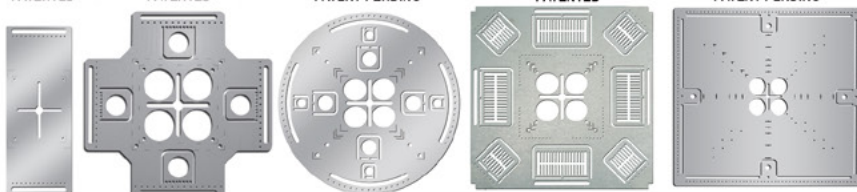
PATENT PENDING

### \* IP7

PATENTED

### IP8

PATENT PENDING



Support From Only ONE Rod Plus Eliminates Conduit Clamps  
Save More Than One Hour per Installation! \*

## IP13a-13h

### Transition Couplings



Sizes 1/2" thru 6" Schedule 40/80 Conduit

## IP15

1 Piece Reaming Bit

PATENT PENDING

1/2" thru 6"

High Speed Steel for Long Life.

Installation in Less Than 5 Minutes

- Use For Entire Job -  
Not Just for Repair!

## IP19 4-Conduit Block

PATENTED

Support up thru 4 conduits From ONLY 1 ROD!

SAVE OVER 30 MINUTES PER INSTALLATION



## IP21a

PATENT PENDING

### QwikBlock Box Support

NEW



Accepts Both 1/4" & 3/8" Threaded Rod

NEW

Snap-ON Adjustable Back Box Support

## IP18a

PATENT PENDING



## IP3a

End Bell Adapter



Smooth Edges Allow Trouble Free Wire Pulls.  
PVC Schedule 40 & 80  
Sizes 1/2" thru 6"

## IP3b

### PVC Offset

1/2" thru 6" Conduit  
1/2" thru 2" Offset

PATENT PENDING



Plus More That Do Jobs **SAFER BETTER FASTER** Constantly Being Invented!



SPPProducts.com 800-233-8595 info@SPPProducts.com

## DEWALT® Adds First-Ever Cordless Ratchets to Its Product Portfolio

*Introducing New XTREME™ 12V MAX\* and ATOMIC COMPACT SERIES™ 20V MAX\* Brushless Ratchets*



DEWALT, a Stanley Black & Decker (NYSE: SWK) brand and leader in trade solutions, recently introduced its first-ever cordless ratchets as part of its DEWALT XTREME™ 12V MAX\* and ATOMIC COMPACT SERIES™ 20V MAX\* lineups. The compact brushless ratchets allow users to fasten and remove nuts, bolts, and more in hard-to-reach work areas. The DEWALT ratchets are each designed with a glass-filled nylon tool housing\*\* that provides resistance to automotive fluids and solvents for use in automotive and other demanding applications. With the introduction of ratchets, users can expand into a new product category amongst DEWALT tools, across both the DEWALT XTREME™ 12V MAX\* and ATOMIC COMPACT SERIES™ 20V MAX\* lines.

The new XTREME™ 12V MAX\* ratchets are available with 1/4-In (DCF504), 3/8-In (DCF503) and 3/8-In Extended Reach (DCF503E) square drive configurations, with the 3/8-In Extended Reach model delivering 3.9-In greater neck reach versus the DCF503. Compact and performance packed, the 1/4-In 12V MAX\* XTREME™ Ratchet features a powerful 40 ft-lb. max torque brushless motor, while the 3/8-In Extended Reach ratchets boast a 60 ft-lb. max torque brushless motor. Ratchets are the latest addition to the XTREME™ portfolio, which now includes 15 tools.

Engineered for performance and durability, the new ATOMIC COMPACT SERIES™ 20V MAX\* ratchets with 1/2-In (DCF512) and 3/8-In (DCF513) square

drive configurations each provide 70 ft-lbs. of max torque. Size meets power through the compact design that helps reach fasteners in tight spaces and areas with minimal access. Ratchets are the newest tools to join the growing line of ATOMIC COMPACT SERIES™ products, which now includes 16 tools.

All models are equipped with an LED light to help provide illumination in dark spaces, a variable speed trigger for user control, as well as a trigger lock to help prevent unintended activation when the tool is not in use. The forward/reverse switch allows users to quickly change direction of application, and each ratchet can be used manually in both directions.

These XTREME™ 12V MAX\* and ATOMIC COMPACT SERIES™ 20V MAX\* Brushless Ratchets are available now where DEWALT products are sold. To learn more about DEWALT products, please visit: [www.dewalt.com](http://www.dewalt.com).

\*With respect to 12V MAX\* - Maximum initial battery voltage (measured without a workload) is 12 volts. Nominal voltage is 10.8 volts.

\*With respect to 20V MAX\* - Maximum initial battery voltage (measured without a workload) is 20 volts. Nominal voltage is 18.

\*\* - Tool housing only, does not include battery.

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

## LED Recessed Surgical Luminaire with 365DisInFx UVA technology

The MSUi-DFX series provides a UVA source from an inset door luminaire to provide a simple and effective way of adding surface disinfection to surgical suites. It also has advanced cleanroom features for supplemental lighting of the surgical/operating room. It offers symmetric or asymmetric distributions when located above the surgical table perimeter. It is certified dust-tight and water resistant to IP65 for frequent rigorous cleaning practices. MSUi is Mil-Std-461G certified and designed for recessed mounting in surgical ceiling systems and grid and flanged installations. The 365nm UVA light is invisible to the human eye and does not change the CCT or CRI of the fixture.



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



## First there was 4 square... and now the **REVOLUTIONARY 5 Square®** Box!!

You've struggled with 4 Square boxes for years - you know how small, cramped and time consuming they are. Finally, there is a solution that allows you the space you have always needed.

The **5 Square®** Boxes (5" x 5" x 2-7/8") provide up to 88 in<sup>3</sup> of interior volume which more than doubles that of most existing boxes on the market.

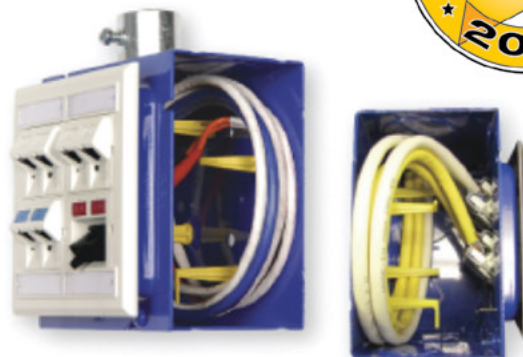
Create a robust and unrivaled infrastructure for the life of your facility with the **5 Square®** Products!

### Fire Signal



- TWICE THE VOLUME AS MOST BOXES
- SAVE LABOR...INCREASE PROFITS
- ELIMINATES TROUBLESHOOTING TIME AND COST
- FULLY UPGRADEABLE SYSTEM
- SPECIFIED BY ENGINEERING FIRMS, HOSPITALS, UNIVERSITIES & GOVERNMENT AGENCIES
- AVAILABLE IN ZINC OR RED

### Telecommunications



- INTEGRAL CABLE MANAGEMENT
- SAVE LABOR...INCREASE PROFITS
- FACILITATES MIN. BEND RADIUS REQUIREMENTS
- SUPPORTS CURRENT AND EVOLVING SYSTEMS
- SUPPORTS PoE PLUS
- SPECIFIED BY ENGINEERING FIRMS, HOSPITALS, UNIVERSITIES & GOVERNMENT AGENCIES





MADE  
IN USA



PRODUCTS, INC.

*Productivity and value thru ideas*

**FOR SAFER BETTER FASTER JOBS**

2021 NECA  
**Show Stopper**  
WINNER



# Transition Couplings



**PVC Schedule 40 & 80 to  
Inside PVC to Inside PVC  
When Exiting Concrete Slab**

**Save  
at Least  
1 Hour per  
Installation.**

**NEW**

**Transitions in  
Less Than 5 Minutes!**

**Save Cost on the Rigid  
Nipple, Tape & Labor**

**Use for Entire Job -  
Not Just for Repair**



**PATENTED**

**1/2" thru 6"**

## Transition Couplings

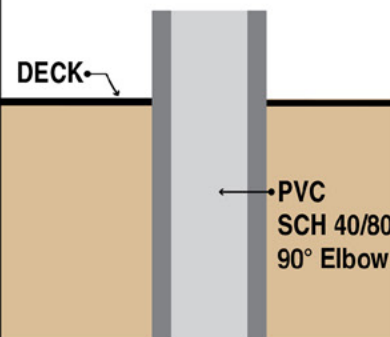
Size	Catalog #
1/2"	50PVC-IN/PVC-IN
3/4"	75PVC-IN/PVC-IN
1"	100PVC-IN/PVC-IN
1 1/4"	125PVC-IN/PVC-IN
1 1/2"	150PVC-IN/PVC-IN
2"	200PVC-IN/PVC-IN
2 1/2"	250PVC-IN/PVC-IN
3"	300PVC-IN/PVC-IN
3-1/2"	350PVC-IN/PVC-IN
4"	400PVC-IN/PVC-IN
5"	500PVC-IN/PVC-IN
6"	600PVC-IN/PVC-IN

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

All SP Products Inc.  
Transition Fittings are  
manufactured for  
installation to either  
meet or exceed  
in accordance with  
NEMA TC2, TC3 or  
UL 651 specifications

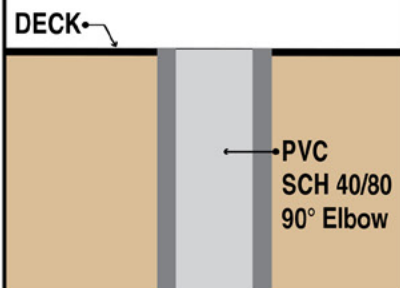


### STEP 1



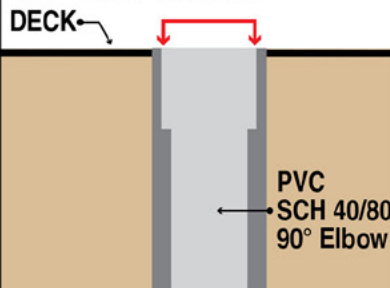
### STEP 2

Cut SCH 40/80 PVC Elbow  
Flush to Deck



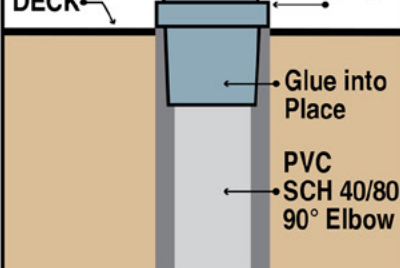
### STEP 3

Ream out 1/2 of wall thickness  
SCH 40/80 PVC Elbow



### STEP 4

Insert  
Specified  
Transition  
Coupling



See Our  
Conduit Plug  
See page IP16



See Our  
REAMING BITS for  
Transition Couplings



See page IP15

**SP PRODUCTS, INC**  
Productivity and value thru ideas



**PATENT PENDING  
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**LABELS APPLY TO PRODUCTS ONLY WHERE SHOWN ABOVE**



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**IP13k**



## **Greenlee® Introduces Mobile Bending Table for 881 Series Hydraulic Benders**

*The new product from Greenlee, a part of Emerson's professional tools portfolio, features anti-theft protection and mobility enhancements critical for today's jobsites*

Greenlee®, part of Emerson's professional tools portfolio, is bringing secure and easy-to-transport conduit bending capabilities to jobsites with the introduction of its Mobile Bending Table for 881 Series Hydraulic Benders. The new product combines the latest in anti-theft protection with enhanced mobility, easy set-up and quick teardown.

"Electricians are constantly trying to do work more efficiently. Anytime we can shave time off a job, it's a win – and this product delivers that with easier set-up and portability. At the same time, we know that protecting equipment from theft is an issue for a lot of tradespeople. The new Greenlee Mobile Bending Table for the 881 Series Hydraulic Benders is our latest solution to help professionals safeguard their investments and increase productivity," said Katey Earley, product manager, Greenlee for Emerson. "The features we've built into this new cart allow users to not only bend anywhere while staying secure, but to also do so in a more ergonomic way so there is less strain on the body and projects can be completed in less time."

The Mobile Bending Table is designed to fit through standard 32-inch-wide doors and includes anti-theft locking features to protect shoes and accessories. For secure transportation, raised fork pockets provide better balance and dedicated strapping points make it easy to secure in a trailer.

Built-in holders for the pendant and cotter pins provide convenient storage, while all accessories are stored in ergonomic lifting positions, reducing strain by up to 30 percent compared to our existing cart, based on Greenlee internal testing. A hands-free media stand gives easier access to tablets, notebooks and more. It is also compatible with all 881 Series Hydraulic Benders, making it ideal for those needing a cart upgrade.

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

## **Klein Tools® Launches Hook & Loop Tape Dispenser to Create Custom Length Cable Ties**

Klein Tools ([www.kleintools.com](http://www.kleintools.com)), for professionals since 1857, introduces a new addition to the cable management line, the Hook & Loop Tape Dispenser that allows cutting hook and loop tape to any size, saving time and hassle on the jobsite.

- Pays out and cuts hook and loop tape to create custom length cable ties
- Strong hook & loop tape material securely holds large bundles of wire and cable, yet is flexible and supple enough to avoid causing adverse damage to conductors or jackets
- Integrated cutter designed to efficiently cut the hook and loop tape with easy single handed cutting action; cutting mechanism is replaceable (Cat. No. 450-999; sold separately)
- Attach to belt with heavy-duty clip for portability and on the go flexibility
- Mount to steel surfaces such as tool chests, cabinets, or panels with the integrated, powerful rare-earth magnets
- Use integrated keyholes for versatile screw mounting to non-magnetic surfaces
- Includes a 12' roll of black, 3/4" wide hook & loop tape to get started which can be easily replaced when depleted
- 25' replacement rolls available in black or white (Cat. Nos. 450-950, 450-960; sold separately)
- Patent pending design



"Being able to stay organized on a jobsite is a top priority in making sure jobs get done quickly and safely," says Elvin Bautista, product manager at Klein Tools. "The Hook & Loop Tape Dispenser helps keep your cables and wires organized, allowing you to make custom length cable ties by cutting the strong, yet flexible hook & loop tape into the size needed. The dispenser can be clipped to a belt, mounted to a metal surface or mounted with screws, meaning you can keep it wherever is convenient for your jobsite needs."

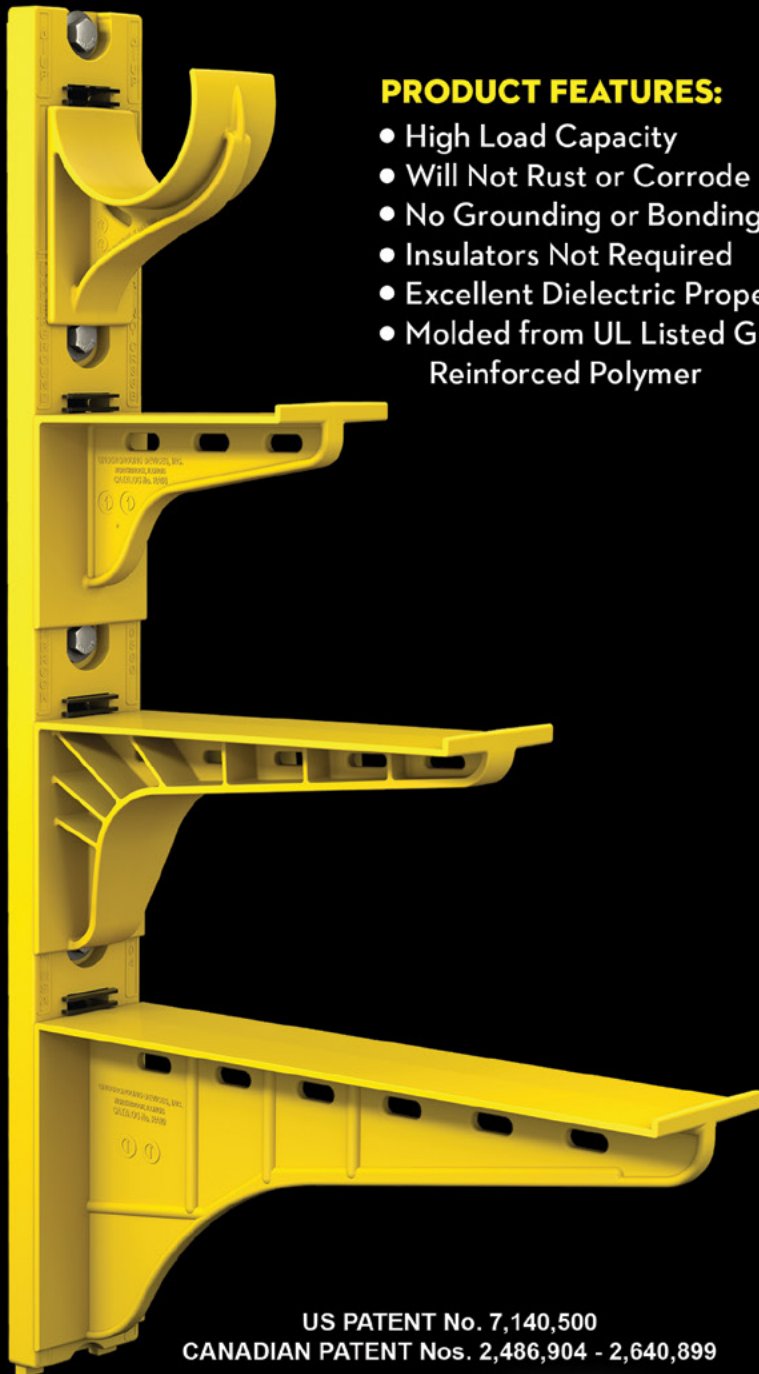
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HDL Arm Lock shown with  
RA04 Arm and CR36-B Stanchion



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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# The New 100W OmniMax

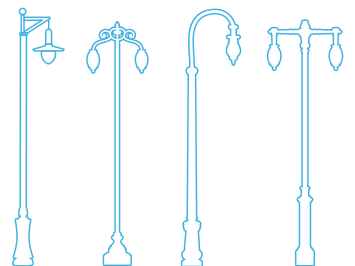


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