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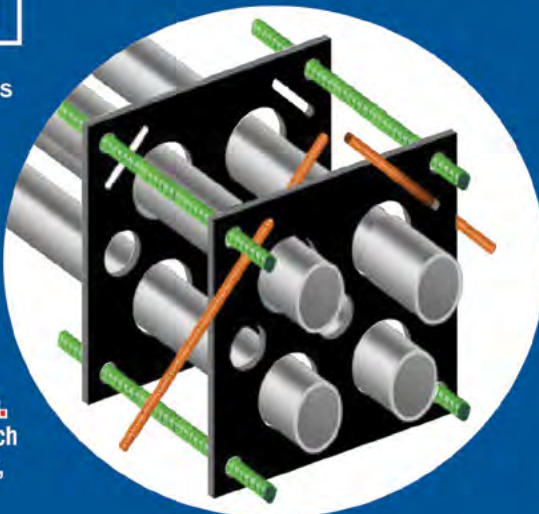
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ON THE COVER

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iTOOLco is a unique research and development company that has led the electrical tool industry with their groundbreaking designs since 2001. iTOOLco's inventors & Co-Founders David & Michael Jordan have developed and patented countless innovative products, pushing the envelope of what can be done to improve the lives of electricians and distribution partners alike. iTOOLco has been awarded prestigious accolades, including numerous NECA Showstopper Awards, for its groundbreaking work in

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With real world experience as electrical contractors, brothers David and Michael Jordan have a deep understanding of the kind of quality, time-saving tools electricians depend on for doing the job right. Over the years iTOOLco has revolutionized the wire pulling market with the introduction of the first ever 12,000

lb. puller - the Cannon 12K, with built in reverse. As well as their Cordless Cannon 3K & 6K (the first on the market of each, respectively). Capable of reaching areas where power may not be available, these pullers allow users to achieve the same amount of power, without worrying where it will come from. Also known for their Gear Punch which includes lifetime replacement on draw studs, Tray Rollers, numerous Material Handling solutions, etc. iTOOLco ensures that no matter the job, we have a solution. □

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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:
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SMART LIGHTING FROM THE CLOUD

Tridonic supports smart energy-efficient lighting in a Spanish town

THE SPANISH TOWN OF POZUELO DE ALARCÓN, located 15 kilometres west of Madrid, now benefits from a state-of-the-art, energy-efficient and centrally controllable lighting solution. Tridonic has equipped the municipality with 2,700 smart, dimmable LED drivers for the entire outdoor area. The town can thus save more than 50 percent in energy costs and take a crucial step closer to its ambitious climate targets. (CONTINUED ON PAGE 10)





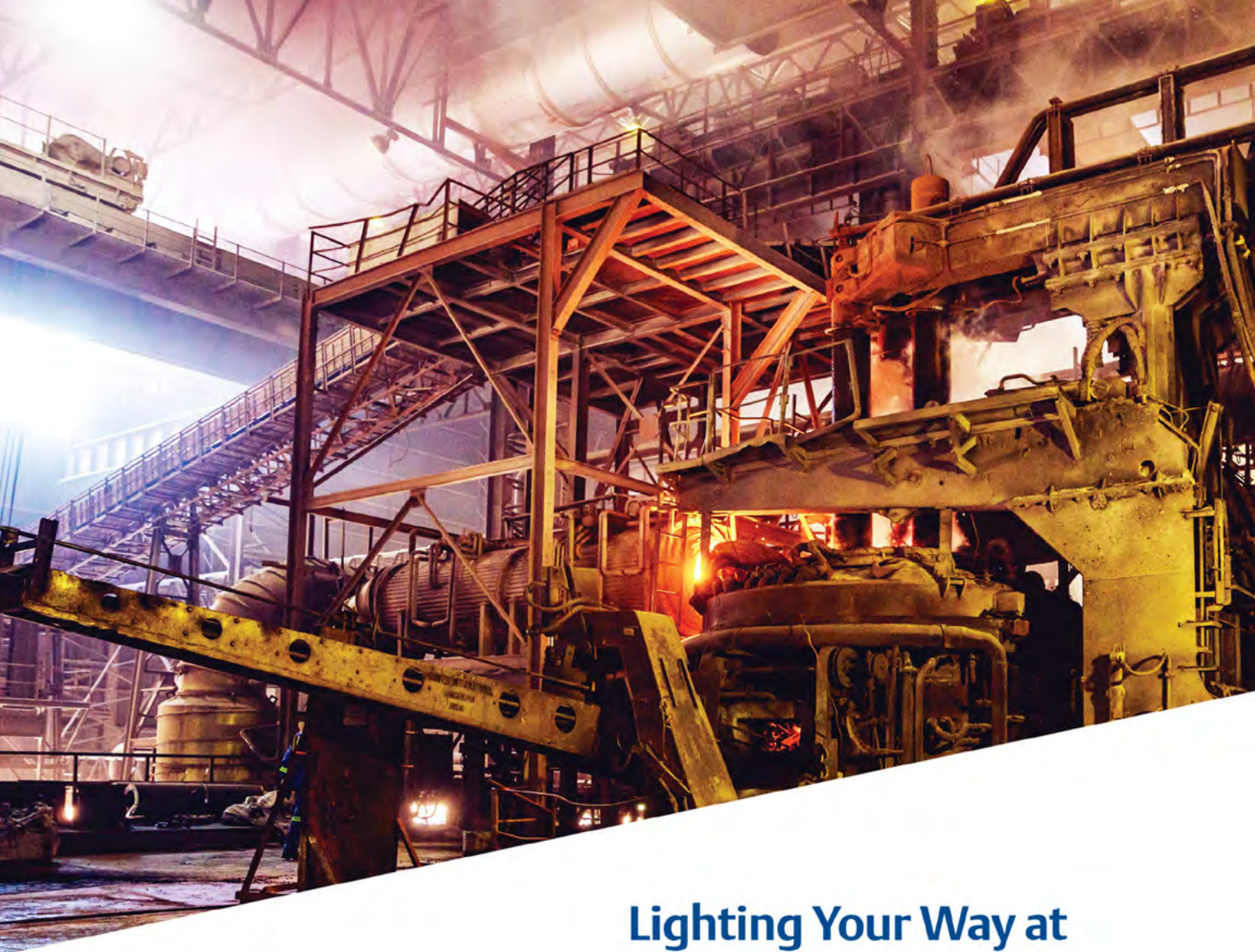
The municipal authority of Pozuelo de Alarcón has long been an advocate of climate-friendly, sustainable and resource-saving energy concepts. It decided that the entire street lighting should also meet these high demands and therefore planned to equip the existing lighting infrastructure with new, state-of-the-art, energy-saving technology. Since peer-to-peer communication in the town was already using the General Packet Radio Service (GPRS) protocol, the new luminaires had to be compatible with this technology. As a consequence, only suppliers who met this requirement were eligible for the project.

Smart Lighting with Energy-Efficient LED Technology

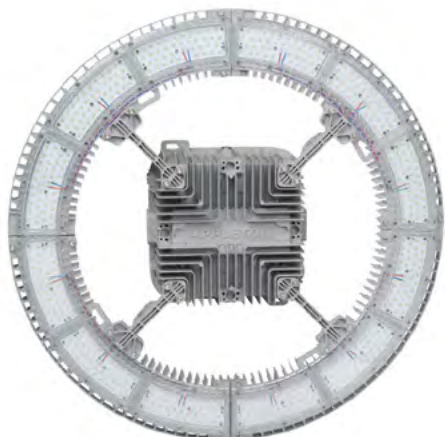
The authority opted to invest in an innovative smart lighting solution, for which the Austrian manufacturer Tridonic supplied highly energy-efficient constant current LED drivers. Project partner INELCOM INGENIERIA ELECTRONICA COMERCIAL designed a total of 2,700 smart, dimmable luminaires fitted with intelligent LED technology. They were installed by the public lighting service provider ImesAPI Group. The special feature here is that the devices are part of a fully networked lighting concept and can be controlled and monitored centrally from

the cloud. The operator therefore benefits from a precise schedule for maintenance work, alarm messages, clear consumption diagrams as well as sophisticated fault management.

The Tridonic drivers were integrated in each individual luminaire. Four different luminaire types were used – classic luminaires (Villa), street lights (Vial), luminaires for parks and gardens and decorative luminaires for residential areas and green spaces. In particular, the engineers installed 300 constant current 40 W LED drivers of type LCO 40/200-1050/64 PD+ NF C PRE3, 1,800 identical drivers with a maximum (CONTINUED ON PAGE 12)



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output power of 60 W (type LCO 60/200-1050/100pD+ NF C PRE3) and 600 pieces 90 W drivers of type LCO 90/200-1050/165pD+ NF C PRE3. Around 50 existing drivers had to be replaced because of various serious installation problems.

Remote Control of Dimming Profiles and Driver Performance

“It was important for us to be able to program the dimming profiles remotely. Driver performance also had to be diagnosed remotely,” says Ana Cebrián Condado, Municipal Engineer from Pozuelo de Alarcón. “Tridonic’s driver solutions were able to meet these requirements without any problems.”

Since the new lighting infrastructure was put into operation the town has been able to fully meet its high energy efficiency requirements. By switching the luminaires to LED technology, power consumption has been reduced by more than 50 percent. Further energy savings result from the use of individual dimming profiles. And the inhabitants of Pozuelo de Alarcón also benefit from the upgrade: Visually attractive luminaires with a particularly warm and pleasant light improve the quality of life in the town.

High Ecological Benefits and Easy Management

“The new lighting is impressive all round. Now we can fully meet our high ecological standards. And with central, cloud-based management including transparent monitoring functions, inventory optimization and simplified maintenance, we are saving ourselves time and money,” says Ana Cebrián Condado. □

ABOUT TRIDONIC

Tridonic is a world-leading supplier of lighting technology, supporting its customers with intelligent hardware and software and offering the highest level of quality, reliability and energy savings. As a global driver of innovation in the field of lighting-based network technology, Tridonic develops scalable, future-oriented solutions that enable new business models for lighting manufacturers, building managers, systems integrators, planners and many other types of customers.

To promote the vision of the Internet of Light, Tridonic forms partnerships with other specialists. The goal is the joint development of innovative technological solutions that convert lighting systems into intelligent networks and thereby enable associated services. Its profound, technical industry expertise makes Tridonic an ideal driver for industry partnerships with other visionaries.

Tridonic is the technology company of the Zumtobel Group and is headquartered in Dornbirn, Austria. In the 2020/21 business year, Tridonic generated sales of Euro 302.8 million. 1,808 highly skilled employees and a worldwide sales presence in over 70 countries reflect the company’s commitment to the development and deployment of new, smart and connected lighting systems.

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PART 1

Improving Data Center Availability with Single-Phase UPS Systems

BY MATT GURRERI, UPS PRODUCT MANAGER, SOLAHD
EMERSON AUTOMATION SOLUTIONS

THE MISSION CRITICAL ROLE that data centers play in supporting global business operations cannot be overstated. Rapid adoption of hybrid IT and cloud services, the growth of AI, and an ability to support a remote workforce have made data centers essential for storing and transmitting the “1s and 0s” the world economy runs on. The connectivity of home automation devices, as well as the dramatic increase in e-commerce shopping and virtual conferencing during the COVID-19 pandemic, has also bolstered data centers’ significance in everyday life.

To give a sense of the volume of information being processed by data centers, consider eBay. It processes 300 billion data queries each day, with a data footprint exceeding 500 petabytes ($4e+9$ GB). That is enough to backup the American Library of Congress more than 300 times.

While the economy depends on data centers for a variety of reasons, the more than seven million data centers operating around the world depend on one common factor for their 24/7/365 availability: the reliable supply of electrical power.

Downtime Costs

Data centers that are experiencing regular power outages risk their temperature control systems shutting down, potentially leaving the estimated 18 million servers deployed worldwide within them vulnerable to the dangers of overheating and condensation changes. Both can limit a server’s capacity to safely store data and may permanently damage its operation. According to a 2018 survey by Uptime Institute, 31% of (CONTINUED ON PAGE 16)





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data centers experienced a power-related downtime incident or severe degradation that year and 48% reported at least one outage at their site or at a service provider in the previous three years. This problem has only grown more severe – and more expensive – since then.

Downtime due to a power outage has grave consequences for data centers. Gartner reports that data center downtime costs \$5,600 per minute or between \$140,000 and \$540,000 per hour depending on the organization. Based on an average reported incident length of 90 minutes, the typical cost of a single downtime event was approximately \$505,500.

These costs are calculated applying such things as data loss or corruption, employee and equipment productivity reductions, equipment replacement,

root-cause detection and recovery actions, legal and regulatory repercussions, revenue loss, and the long-term repercussions on reputation and trust among key stakeholders. While business disruption and lost revenue are cited as the most significant cost consequences of downtime, other less obvious costs also have a significant impact on an average downtime event. For example, every second a data center experiences downtime, their clients experience downtime as well, creating a cascading effect of losses.

UPS Battery Related Failures

A survey conducted by Emerson showed that more than 39 percent of data center outages were attributed directly to vulnerabilities in the facility's power. Among the general root causes of data

center downtime related to power, UPS (uninterruptible power supply) battery failures proved to be the most costly (\$687,700) and accounted for one-quarter of all such events. The battery in a UPS proved to be the most vulnerable part of the system.

Having a system of UPS is essential in any data center, large or small, to ensure service continuity. UPS provide critical backup power if the primary power source goes offline due to a disruption or a catastrophic emergency. It bridges the short-term loss between utility power failure and backup generator operation. In addition to backup power, a UPS provides protection against surges, sags and other disruptions that can severely damage connected devices, reduce their lifespan, or affect their overall performance. (CONTINUED ON PAGE 18)



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Why Do UPS Batteries Fail?

Like every battery, UPS batteries have a built-in lifespan (approximately 3-6 years) and require replacing when they can no longer supply 80 percent of rated capacity in ampere-hours. However, UPS battery life may be compromised by several factors other than time. For instance, if ambient temperatures are too warm or if the battery is subjected to wide temperature variances, it is put at serious risk of degrading. In general, if the temperature drops below 22 °C, UPS batteries will underperform or sustain damage. On the other side of the ledger, operating above 25°C will result in increased battery capacity but reduced battery life. As a guideline, every 8 °C rise in temperature above 25° C cuts the battery life in half.

Over-cycling is another culprit. “Cycling” refers to when a battery is discharged and recharged. If this happens too often it reduces the capacity of a battery and causes deterioration of the battery contacts. Constant discharging of batteries will send them to a premature end-of-life. In addition, UPS batteries may fail due to incorrect float voltage, as well as leaving them in storage too long without re-charging, or as a result of simple human error.

UPS Battery Overheating

Overheating is by far the most frequent

cause of UPS battery failure and the accelerating of the aging process. Even batteries designed for high-temperature chemical reactions are not immune to heat induced failures due to parasitic reaction within the cell. Overheating will happen in a data center due to:

- Air conditioning not producing a sufficient volume of chilled air. This event commonly happens when an older UPS is replaced with a larger capacity UPS. Hot summer days can also lead to air conditioning not providing the needed amount of cooling. Air conditioning units must be serviced regularly to ensure the proper cooling of each UPS system.
- Dust build-up inside the UPS is an unseen villain that causes overheating of not just the battery but of all the components of the UPS.
- Fans used to cool the UPS may fail. In a multi-fan system a single fan failure may go unnoticed.
- An overloaded UPS continuously operating at 100% or higher will overheat.
- A UPS that is installed in an area without proper ventilation will overheat.

Three-phase and Single-phase UPS

Three-phase UPS are commonly installed in data centers for larger equipment with higher power requirements distributed over longer distances. A

single-phase UPS is generally used for smaller loads within the data center, for instance, for HVAC and control equipment, network workstations, VoIP, rack or distributed servers, and safety/security systems. Smaller remote IT centers and edge data centers may rely entirely on single-phase UPS to keep infrastructure operational.

For the purpose of this article we are only reviewing issues regarding single-phase units in data centers. Until recently it was thought that only loads less than 20kVA could safely use a single-phase UPS. Yet most quality industrial-grade single-phase UPS are now fully capable of handling much higher kVA applications in a broader range of VDC without failure. For low- to mid-power requirements, single-phase UPS are more efficient than three-phase UPS, striking the right balance of price, energy density, power, and resiliency. Correctly specified and installed, an industrial single-phase UPS will intercept virtually any potential power disruption the data center may experience, while maintaining electricity at a consistent rate, and providing critical power in the event that the commercial power source is down. □

Part 2 of this article will be featured in the next issue of Electrical Product & Solutions magazine.

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1 1/2"	150PVC-IN/PVC-IN
2"	200PVC-IN/PVC-IN
2 1/2"	250PVC-IN/PVC-IN
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Conduit Plug
See page IP16

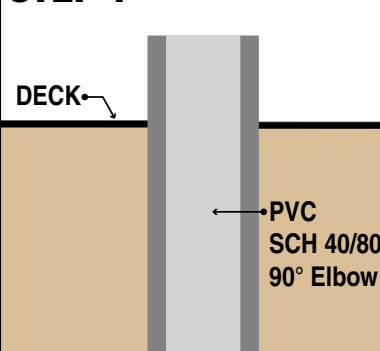


See Our
REAMING BITS for
Transition Couplings



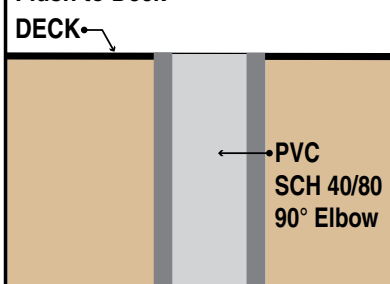
See page IP15

STEP 1



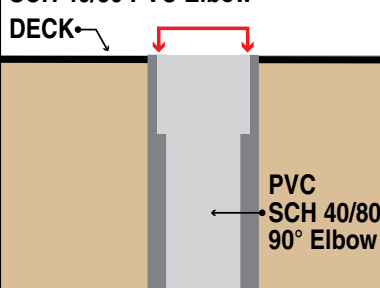
STEP 2

Cut SCH 40/80 PVC Elbow
Flush to Deck

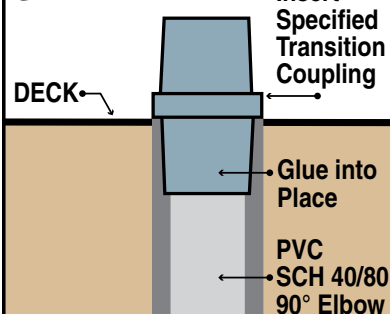


STEP 3

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



STEP 4



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IP13k

Schneider Electric Launches Next Generation PowerPacT Circuit Breaker Series at NECA Nashville 2021

- The next generation of PowerPacT circuit breakers deliver performance, productivity, and connectivity in one
- Equipped with Visi-Trip™ LED breaker locator, the industry's only LED locator in a molded case circuit breaker
- Improved user experience that increases confidence, improves operations, saves time and resources and allows for simplified feature enhancements

Schneider Electric, the global leader in the digital transformation of energy management and automation and the industry's leader in circuit breakers, recently announced the launch of its new and improved PowerPacT™ Molded Case Circuit Breaker (MCCB) series at the 2021 NECA Convention Nashville. The new PowerPacT series focuses on innovative technology designed to meet the needs of Schneider Electric's customers, offering an improved circuit breaker solution for the future.

The intelligent and reliable multi-standard compliant range of molded case circuit breakers enable customers to increase operational efficiency and deliver unrivaled reliability to power tomorrow. The updated PowerPacT MCCB is equipped with features including:

- **Visi-Trip™ LED breaker locator:** The industry's only LED locator in an MCCB provides a visual light alert when a breaker needs to be inspected, increasing safety and saving customers time finding the concern and allowing them to begin the troubleshooting process faster
- **Updated front cover design:** Embeds all connectivity features into the display with sleek new product brand

signature and product QR codes, allowing customers to easily upgrade solutions and gain quick access to device documentation

- **Semi-transparent breaker:** Gives customers direct visibility to auxiliaries installed within the breaker and provides simplified retrofitting with additional accessories
- **Zigbee wireless technology:** Coming soon, PowerPacT breakers will be compatible with optional wireless technology for accessories. Zigbee saves customers time by eliminating the need to hard-wire connections and improves productivity by providing real-time remote notifications

"We designed PowerPacT specifically from customers' insights to address the most important pain points they were facing with breakers," said Rohan Kelkar, Executive Vice President for Global Power Products at Schneider Electric. "These features will transform daily operations for customers and contractors who would otherwise spend hours trying to locate a single tripped breaker or disassemble panels to repair a faulty device or locate important product information."



The new PowerPacT series saves valuable time and resources while reducing risk, simplifying installation and maintenance, and offering scalable upgrades which are future-proof to meet environmental standards. PowerPacT MCCBs provide a clear opportunity for contractors, specifiers, electrical OEMs and distributors to increase power resiliency and mitigate circuit breaker trip issues for hospitals, utilities, electrical construction sites and more.

Schneider Electric's PowerPacT solution was on display at the 2021 NECA Convention in Schneider Electric's Interactive Booth #1553 and the Showstopper Showcase. □

ABOUT SCHNEIDER ELECTRIC

Schneider's purpose is to empower all to make the most of our energy and resources, bridging progress and sustainability for all. We call this Life Is On.

Our mission is to be your digital partner for Sustainability and Efficiency.

We drive digital transformation by integrating world-leading process and energy technologies, end-point to cloud connecting products, controls, software and services, across the entire lifecycle, enabling integrated company management, for homes, buildings, data centers, infrastructure and industries.

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McCarthy Building Companies, Inc. Partners with Kenzen to Pilot Wearable Heat Safety Technology

Innovative heat monitoring device helps safeguard workforce.

Perennially recognized as one of America's safest builders, McCarthy Building Companies, Inc. is partnering with Kenzen to pilot wearable heat monitoring technology on multiple construction projects. Kenzen's smart PPE devices monitor the heat status of workers in hot and humid conditions, helping predict and prevent heat stress and illness. Together, the organizations will gain valuable insight into how the technology can minimize the risk of heat illness and protect the broader construction workforce.

"Safety is the most important thing we do every day, and on many projects that includes heat awareness and heat illness prevention," said McCarthy Vice President National Safety Pat Devero. "The Kenzen system is already helping us identify new ways to prevent heat illness, assist in validating our current practices and heat illness expectations, and is a great example of how embracing technology can improve our industry's approach to health and safety."

The Kenzen device is a sensor worn on a worker's upper arm that monitors,



in real-time, an individual's physiological markers that trigger heat injury risks. This includes a sweat rate monitoring feature that uses a worker's information and physiological data to calculate and predict their sweat rate in liters per hour. Using a proprietary algorithm, the Kenzen device can alert workers of dangerous heat stress via a smart phone app. The data helps eliminate guesswork about how to keep workers safely hy-

drated and makes it possible for individual workers to know the specific amount of water they need to drink to stay safe.

On-site managers have access to alerts and corporate safety leaders use an analytics dashboard to monitor and evaluate risks to individuals and teams, helping them optimize worker safety. McCarthy will use the technology to identify broad trends that affect all projects and implement preventative (CONTINUED ON PAGE 26)



**Strong
ALMAG 535
Material**

4-Conduit Block Support From Only One Rod

 **MADE
IN USA**
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**Threaded Block OR Threadless Block
for Vertical Rod for Vertical Rod**



For Vertical Rod 1/4" or 3/8"

Specify bolt size 1/4" or 3/8" for the conduit clamp

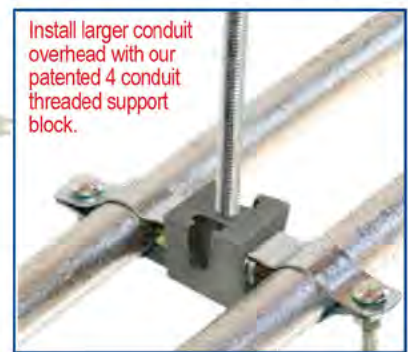
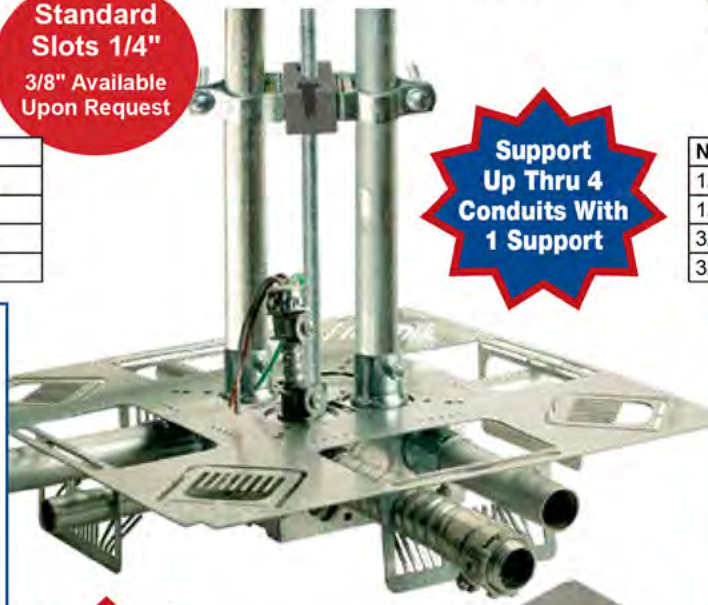
ST=(side thread) 1/4" or 3/8"

**Standard
Slots 1/4"**
3/8" Available
Upon Request

THREADED BLOCK	
1/4 inch rod = Cat#	TBT25-ST25
1/4 inch rod = Cat#	TBT25-ST38
3/8 inch rod = Cat#	TBT38-ST25
3/8 inch rod = Cat#	TBT38-ST38

NON-THREADED BLOCKS	
1/4 inch rod = Cat#	TBT25-NT-ST25
1/4 inch rod = Cat#	TBT25-NT-ST38
3/8 inch rod = Cat#	TBT38-NT-ST25
3/8 inch rod = Cat#	TBT38-NT-ST38

**Support
Up Thru 4
Conduits With
1 Support**



**New
Block**

**AVAILABLE
SOON**
**For Vertical Rod
1/4" or 3/8"**



**4 threaded holes on
4 sides (no slots)**
Specify bolt size 1/4" or 3/8" required for the conduit clamp
PATENTED

FAST & EASY TO INSTALL

- 1** Insert Threaded or Threadless Rod
- 2** Drop Hex Heads into Slots to Attach Minis
- 3** Attach Minis Tighten Nuts
- 4** Minis Attached Ready for Conduit to be Inserted
- 5** Insert Conduit Tighten Nuts and Bolts on Minis

Customer must satisfy all codes and owners' specifications.

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IP19-20

measures to increase safety and productivity.

“The Kenzen pilot was a valuable program for our jobsite,” said Andrew Rhines, McCarthy Project Safety Coordinator in Texas. “It benefitted the craft professionals on our site and the data gathered by Kenzen helped verify many different aspects of our national heat illness prevention plans including water consumption and scheduled breaks.”

McCarthy and Kenzen are equally committed to protecting user data; the system does not reveal personal information or reasons why someone is in a particular heat risk category; it is only used to monitor and manage people according to their individual heat susceptibility.

McCarthy makes education about heat illness and injury prevention a priority during the spring and early summer as temperatures increase. The company shares educational information internally, hosts on-site educational and training sessions, and makes resources available

for its workforce in-person and online. On projects in high heat areas, McCarthy provides hydration aids, shade stations, cooling fans and brimmed head protection to reduce heat. It’s also common for the projects to alter schedules, allowing the day’s work to be completed before the hottest portion of the day.

From 1992 through 2017, there were 70,000 serious injuries and 815 deaths caused by exposure to excessive heat, according to the Bureau of Labor Statistics. Of the 492 occupational fatalities attributed to exposure to environmental heat from 2003 to 2016, 179, or 36 percent, were in the construction industry.

“McCarthy is a leader in exploring all opportunities to keep employees safe,” said Heidi Lehmann, Kenzen co-founder and President. “With the Kenzen system, they can tailor their approach to individuals, teams, and projects because they have access to new, highly detailed information. This information helps manage risk, realize increased productivity,

and meet every worker’s unique requirements for working safely.”

McCarthy has selected several pilot opportunities for the Kenzen system on jobsites in Arizona, Georgia and Texas. Employees using the system understand the protective value it offers and appreciate receiving notifications about their core body temperature, sweat rate, and hydration status – when they should stop and rest, and when it’s safe to return to work.

“The Kenzen system has been a successful initiative for our team and how we approach heat illness risk onsite,” said Sean Blakemore, McCarthy Project Safety Manager in Texas. “The entire Kenzen team is resourceful and is helping us maximize management of the program. The data we’re gathering is a significant benefit for us to not only verify and confirm our current approach, but it also helps everyone understand what drives the additional mitigation measures we take in order to send everyone home safely at the end of each day.” □

ABOUT MCCARTHY

McCarthy Building Companies, Inc. is the oldest privately held national construction company in the country – with more than 150 years spent collaborating with partners to solve complex building challenges on behalf of its clients. With an unrelenting focus on safety and a comprehensive quality program that span all phases of every project, McCarthy utilizes industry-leading design phase and construction techniques combined with value-add technology to maximize outcomes. Repeatedly honored as a Best Place to Work and Healthiest Employer, McCarthy is ranked the 13th largest domestic builder (Engineering News-Record, May 2021). With approximately 5,000 salaried employees and craft professionals, the firm has offices in St. Louis; Atlanta; Collinsville, Ill.; Kansas City, Kan.; Omaha, Neb.; Phoenix; Las Vegas; Denver; Dallas, Houston; and San Diego, Newport Beach, Los Angeles, San Francisco, San Jose and Sacramento, Calif. McCarthy is 100 percent employee owned. More information about the company is available online at www.mccarthy.com or by following the company on Facebook, Twitter, LinkedIn and Instagram.



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ShowStopper
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Topaz Announces Next Generation Eclipse Series High Bay

Topaz Lighting Corporation released today the latest addition to its line of LED lighting solutions for commercial and industrial applications, the Eclipse Gen 2 High Bay. Designed with a new optical lens that reduces glare and enhances visual comfort, the Gen 2 meets DLC® Premium V5.1 requirements for rebate eligibility.

Topaz Senior Product Manager, Michael Neary notes, "Topaz has always been committed to upholding the rigorous criteria set by our partners at DLC. The Gen 2 offers the same quality and performance of our original Eclipse high bay fixture, with an improved construction that aligns with evolving industry standards."

The Eclipse Gen 2 features a slim, die-cast aluminum housing with a black, powder-coat finish and an IK08 impact-rated polycarbonate lens for durability and safety. Suitable for use 24 hours, 7 days a week in ambient temperature locations up to 122°F, the fixture's integrated cooling fins ensure maximum heat dissipation and a longer life span in demanding environments. The Eclipse Gen 2 is optimized for warehouses, manufacturing facilities and gymnasiums and is compatible with Topaz's emergency battery backup kit. For a complete list of compatible accessories and product specifications visit www.topaz-usa.com.

The Eclipse Gen 2 is rebate eligible in major markets across the country including New York City, Phoenix, Dallas, Los Angeles, Chicago, San Antonio, and Las Vegas. The Topaz online Rebate Finder (www.topaz-usa.com/rebate-finder) matches qualifying Topaz products with utility provider rebates and supplies support documentation necessary to take advantage of significant savings.

Topaz is a leading manufacturer of electrical fittings, traditional lighting, ballasts, LED fixtures, and lamps.



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Deadline: December 10, 2021

Requirements:

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

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DEWALT® ATOMIC Compact Series™ 20V MAX* Lineup Expands with New Impact Driver and Impact Wrenches

20V MAX 1/4-In. 3-Speed Impact Driver Is The Shortest High Torque Impact Driver Ever From DEWALT*

DEWALT adds to the growing ATOMIC Compact Series™ 20V MAX* portfolio with a new 20V MAX* 1/4-In. 3-Speed Impact Driver (DCF850), 20V MAX* 1/2-In. Impact Wrench with Hog Ring Anvil (DCF921), 20V MAX* 1/2-In. Impact Wrench with Detent Pin Anvil (DCF922), and 20V MAX* 3/8-In. Impact Wrench with Hog Ring Anvil (DCF923). Each tool boasts a short length and minimal weight for tight-space applications and user comfort.



At only 3.97-In. in length, the 20V MAX* 1/4-In. 3-Speed Impact Driver (DCF850) is 29 percent shorter**. With a brushless motor that delivers 30 percent more max torque*** at 1825 in.-lbs., as well as 3250 RPM (no-load), the impact driver powers through heavy applications like larger fasteners and spade bits while providing access to tighter spaces like cabinetry and framing. Three LED lights provide optimum illumination while 3-Speed setting and a variable speed trigger allow for precision and control.

Each of the new 20V MAX* Impact Wrenches delivers up to 300 ft.-lbs. of max tightening torque and up to 450 ft.-lbs. of max breakaway torque, all at an astonishing weight of just 2.5 lbs. (tool only) each. At less than 5-In in length, the DCF921 brushless impact wrench is 28 percent more compact† for comfort and improved access when working in tight spaces. Glass filled nylon housings help resist the effects of harsh automotive chemicals and solvents making it ideal for use in a variety of construction and automotive applications including grooved couplings, pipe flanges, concrete anchors, brake repair, engine bay work, suspension repair and more. Precision Wrench™ Control provides added control when used in forward/reverse and TimberScrew™ Mode for performance in wood fastening applications. The DCF921 and DCF923 each feature a hog ring anvil for easy socket changes while the DCF922 has a detent pin anvil for users who require additional socket retention. Users can also select LED brightness with the 3 mode select button.

The new DEWALT ATOMIC Compact Series™ 20V MAX* Impact Driver and Impact Wrenches will be available this fall where DEWALT products are sold. See below for additional information on SKUs and MSRPs.

**For more information, visit
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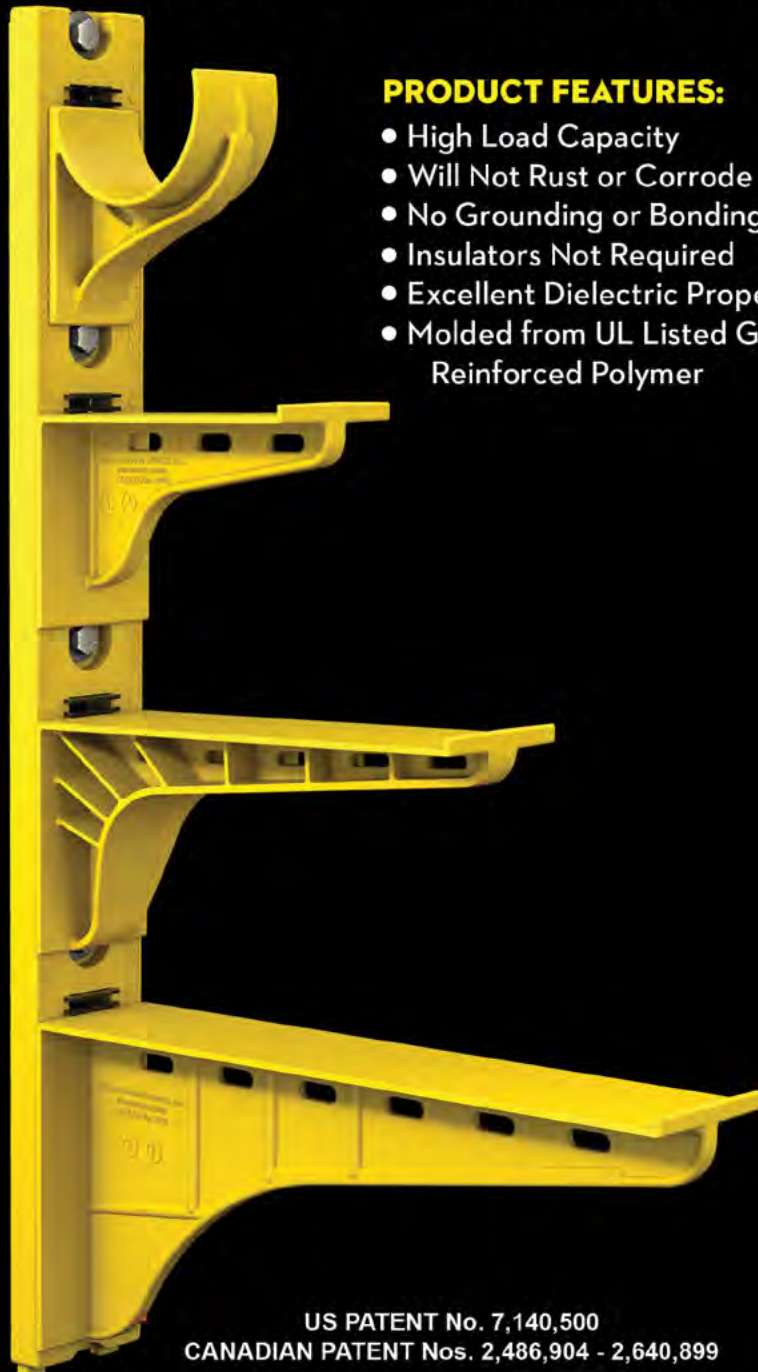
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HDL Arm Lock shown with
RA04 Arm and CR36-B Stanchion



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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