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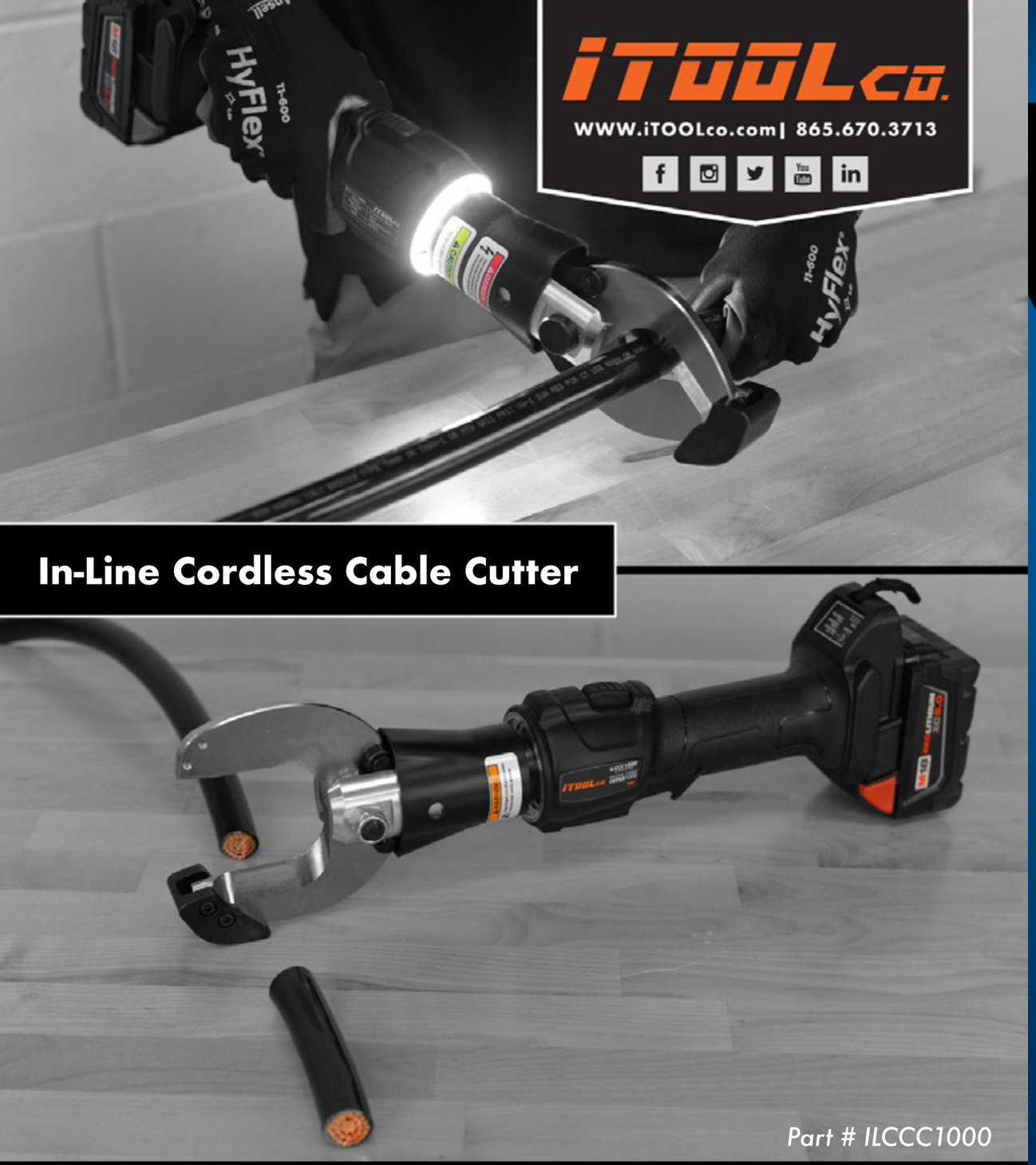
MOVING BEYOND THE 100M STANDARD

Network Design Considerations as Links Get Longer



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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: www.electricalsafetysupply.com, email Vince at: sales@millersafetyltd.com.

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MOVING BEYOND THE 100M STANDARD

Network Design Considerations as Links Get Longer

THE 100-METER DISTANCE LIMITATION FOR COPPER CABLING CHANNELS HAS LONG BEEN THE INDUSTRY STANDARD FOR NETWORK DESIGNERS, INSTALLERS, AND MANAGERS TO GET THE MOST RELIABLE AND CONSISTENT PERFORMANCE OUT OF THEIR NETWORKS. However, as smart building device deployments and PoE applications push network devices farther away from telecommunications rooms, the 100-meter limit is stretching enterprise and industrial environments to consider alternative solutions.

What is the 100-Meter Standard?

Prior to the first TIA 568 standard, each networking vendor used their own proprietary cabling components and architecture. Some systems used coax while others used twisted pair, and maximum cabling lengths varied by whichever proprietary system the vendor used. Ultimately, these aspects meant there was no interoperability between vendor systems.

To address these issues, the 1991 TIA/EIA-568 cabling standard created a "structured cabling" architecture. The standard established a standardized twisted-pair horizontal cabling system design that was vendor agnostic, allowing for interoperability for both cabling and devices. Also, no knowledge of the intended use was required for any given channel, allowing for a system that could support any device and easily handle equipment changes and upgrades.

The standard established "universal" cabling systems. Computer and networking device vendors could design transmission equipment based on the maximum worst-case media scenarios, the TIA-568 standard created a predictable electrical performance distance with a 100-meter horizontal cabling distance, effectively allowing these networking devices to guarantee performance within the standard distance.

When 100 Meters Isn't Enough

Networking is vital to more and more enterprise functions outside the traditional office space. Educational and corporate campuses span long distances, with many indoor and outdoor locations. Warehouses, distribution centers, and sports facilities are massive structures that require long distances of networking infrastructure to keep them running. Additionally, as buildings become smarter, smart devices like cameras, access controls, operational building controls, and wireless access points could be placed throughout these locations, on multiple floors, perimeter fences, parking lots, and distant security booths.

Long distances can create sub-optimal performance conditions for networking infrastructure. What are the options for overcoming the 100 meter distance challenges?

"We introduced GREENPACK Bulk Packs for copper jacks more than 10 years ago, and we're excited to expand our GREENPACK bulk packs to include copper patch cords. Combined with Sustainably Smart Packaging, this is the latest reinforcement of our commitment to simplifying jobsite activities for contractors and protecting the environment by reducing single-use plastics and minimizing overall waste."

—Kirk Krahn, senior product manager at Leviton Network Solutions

Telecommunications Room or a Remote Telecommunications Enclosure and Switch

Adding a telecommunications room, or enclosure with a switch, maintains use of standards-based cabling system design, allows for cabling vendor interoperability, and guarantees device functionality and interoperability at any location. Also, this solution maximizes flexibility, facilitating moves, adds, and changes.

Between construction costs, operational cooling costs, and additional network equipment, adding a telecommunications room or enclosure is the highest cost option. Also, this option doesn't work if space is at a premium.

Link Extenders or Media Converters

When cost is an issue, link extenders and media converters are a good solution as they are lower cost than adding spaces and switches. They provide centralized management, providing both data and power, and a power backup, to the end device from the head-end closet. These solutions also guarantee device functionality, future interoperability, and distance capabilities well beyond 100 meters.

Link extenders and media converters can create additional potential points of failure, especially in outdoor environments. It is highly recommended that these solutions have surge protection in outdoor applications. Lastly, component costs are higher than simple cabling costs.

Single-Pair Ethernet

Single-pair Ethernet is an emerging technology that carries both power and data, with the potential to support

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Tech Tips Fiber Raceway System

The Leviton Fiber Raceway System (FRS) provides a robust solution to route fiber cabling in data centers, head ends, telecom rooms, and wiring closets. Comprised of solid or slotted duct sections, horizontal and vertical elbows, tees, and cross sections, the Fiber Raceway is a modular, bend-radius compliant pathway solution.

1. Create a floor plan that includes cabinet and rack placement, ceiling height, and any other pathway restrictions. Select duct sizes that meet the required cable volume for current and future demands.
2. Identify transition and drop-off requirements. Plan a minimum of one drop-off for each rack or cabinet—more can be retroactively added, if needed. Mounting kits can vary, but they should be spaced no more than 3 feet (0.9 meters) for fiber, and no more than 2 feet (0.6 meters) high fiber volumes or armored cabling.
3. Calculate the number of needed duct sections, joiners, mounting kits, transitions, and drop-offs. Leviton recommends 5-10% additional duct sections and joiners for any inconsistencies between the site and plan.

channel lengths up to 1,000 meters. It also is based in a familiar technology: twisted-pair cabling.

Since single-pair Ethernet is an emerging technology, there are no commercially available building automation devices yet. It also has limitations when it comes to: power levels, which are currently less than Class 4 PoE power; data rates, with 10 Mb/s limitations beyond 40 m; and a limited number of industrial control devices.

Of course, there is also standard twisted pair cable solutions.

Cable manufacturers have produced cables with "enhanced" performance for as long as category cables have existed, creating Cat 5e, Cat 6 and Cat 6A cables with headroom to perform above the standard. Many claims in the market today state that they support distances beyond 100 m depending on Ethernet speed and PoE power level, but these extensions are not without risk of performance issues. Want to learn more about how to take advantage of your twisted-pair cable for greater distances, or design a network architecture to go farther? Check out our webinar Moving Beyond the 100m Standard.

Making a Sustainable Difference on the Jobsite

Product packaging like boxes, reels, and bags create large amounts of jobsite waste, especially for network deployments that require large quantities and a variety of networking products. As part of our commitment to sustainability, we are constantly taking strides to reduce the amount of jobsite waste that those packages would create.

With GREENPACK™ bulk packs and Sustainably Smart Packaging, we are designing our packaging to use less materials, while also using recycled and recyclable materials. These packaging choices eliminate the need for single-use plastics and reduce the amount of produced material that will be thrown into a landfill.

Key benefits of our GREENPACK Sustainably Smart Packaging include:

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installation with perforated windows for easy product identification, hand holes for easy transit, and information entry fields on the box.
- GREENPACK bulk packs save an estimated 75 minutes of installation time per 1,000 cords.

"We introduced GREENPACK Bulk Packs for copper jacks more than 10 years ago," said Kirk Krahn, senior product manager at Leviton Network Solutions. "And we're excited to expand our GREENPACK bulk packs to include copper patch cords. Combined with Sustainably Smart Packaging, this is the latest reinforcement of our commitment to simplifying jobsite activities for contractors and protecting the environment by reducing single-use plastics and minimizing overall waste." ❑

For more information on this and other GREENPACK Bulk Pack options, visit www.Leviton.com/Greenpack

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ASK THE EXPERTS

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A: However, it's important to select the ideal indoor/outdoor cable for these types of installations. These cables need to have comprehensive fire performance capability while also having strong protection in outdoor conditions. Leviton's RDT I/O copper cable or ADVENTUM™ fiber cable, have these characteristics, allowing them to perform effectively in indoor/outdoor conditions. As an added benefit, RDT I/O cable includes the award-winning FLX-T™ technology which reduces recoil and enhances cable flexibility for the best indoor/outdoor cable installation experience in the industry.

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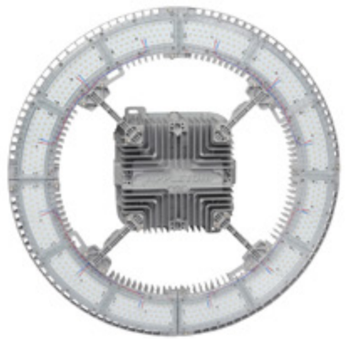

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Sonepar Joins IES as Champion Level Sustaining Member

The Illuminating Engineering Society (IES) is proud to welcome Sonepar as its newest Champion Level sustaining member company. Sonepar is the first electrical distributor with a Champion Level Sustaining Membership with IES, marking the company's commitment to the development of lighting professionals.

IES Sustaining Membership is for companies, institutions, and other organizations regardless of staff size or operational budget. Five levels of membership are available, with Champion Level as the highest with maximum services and benefits provided by the IES for the company and its employees.

"Becoming a Champion Level sustaining member of IES strengthens our expertise and service level for the lighting and controls product category. With the content provided by IES, our associates get valuable ongoing education that allows us to serve our customers as lighting experts. We look forward to a strong relationship between Sonepar and IES," stated Marc Hodges, Director Lighting Solutions at Sonepar USA.

"With the programs and tools provided by IES, our associates get

access to resources unmatched in the lighting industry. This investment demonstrates Sonepar's commitment to career development for lighting professionals throughout our company," added Bob Preston, Solutions Specialist – Lighting from Capital Electric, a Sonepar Company.

Sustaining Member benefits include access to education and the new Lighting Library®, discounted memberships and attendances to society level events and conferences, promotion of your company on our website, at our annual events, and in the award-winning LD+A magazine. In addition, a portion of the Sustaining Membership dues are tax deductible in the United States.

"We are excited to welcome Sonepar as a Champion Level sustaining member," stated Colleen Harper, CEO and Executive Director of the IES. "We look forward to working with them for years to come with mutual benefits for the Society and their company."

The five Sustaining Membership levels (Contributor, Supporter, Benefactor, Ambassador and Champion) start at $1,250 USD per year. Of the more than 300 Sustaining Member companies, Sonepar stands out as one of four Champion Level members. ❑

ABOUT THE ILLUMINATING ENGINEERING SOCIETY (IES)

Established in 1906, the Illuminating Engineering Society is the recognized technical and educational authority on illumination. Our mission is to improve the lighted environment by bringing together those with lighting knowledge and by translating that knowledge into actions that benefit the public. We provide a variety of professional development, publications, networking and educational opportunities to our membership of engineers, architects, designers, educators, students, contractors, distributors, utility personnel, manufacturers and scientists in nearly 60 countries. Through our American National Standards Institute (ANSI) accredited process, we publish and maintain the Lighting Library®, with over 100 standards written by subject matter experts in our technical committees. In all our efforts, we strive to improve life through quality of light. To learn more about us, visit www.ies.org.

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Sonepar is an independent family-owned company with global market leadership in B-to-B distribution of electrical products, solutions and related services. Through a dense network of 80 brands spanning 40 countries, the Group has an ambitious transformation agenda to become the first global B-to-B electrical distributor to provide a fully digitalized and synchronized omnichannel experience to all customers. Drawing on the skill and passion of its 44,000 associates, Sonepar had sales of $33.1 billion in 2022.* For more information, visit www.sonepar.com.

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PVC Running Thread SCH 40/80 Up to 30" Long
PATENT PENDING
IP3d

NEW Transition Fittings
Saves a Great Deal of Time Repairing Conduit
The Inside Diameter Remains the Same
Allows for Trouble Free Wire and Cable Pulls

IP13k
Inside PVC to Inside PVC
PATENT PENDING

IP13p
3/4" MC Cable to PVC
PATENT PENDING

IP13q
PVC Reducer
PATENT PENDING

Male Threaded PVC Offset
IP3c
1/2" thru 3" Offset for Conduit Sizes 1/2" thru 6
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Plus More Being Invented for SAFER BETTER FASTER Jobs . . . Call With Your Ideas!

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

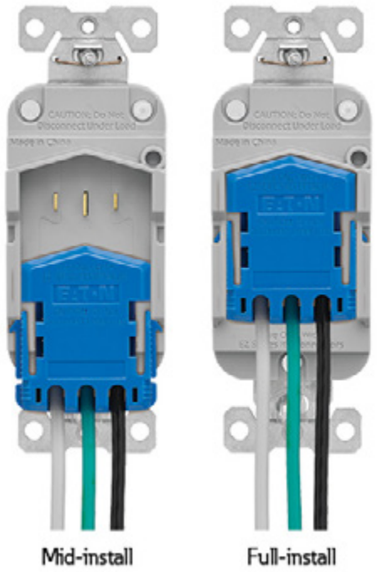
Klein Tools® Introduces New P100 Half-Mask Respirators for Respiratory Protection

Klein Tool, for professionals since 1857, introduces the new P100 Half-Mask Respirators, to provide protection against all particulate aerosols including solid and liquid particles such as dust, metal fumes and oil mist.

P100 Half-Mask Respirators (Cat. Nos. 60552 & 60553)
- NIOSH P1000 Rated
- Low profile, lightweight design for all-day comfort
- Simple push-in fit check mechanism for quick & easy face seal validation
- Adjustable straps with end clamp keep head strap tidy and comfortable all day
- Downward facing exhalation valve prevents safety glass fogging
- Available in two different sizes: Medium/Large and Small/Medium
- Replacement Filters (Cat. No. 60554) also sold separately (2-pack)

"Construction and other work sites can generate dust particles, metal fumes, mists and other respiratory hazards," says Chandler Duchaine, senior product manager at Klein Tools. "The P100 Half-Mask Respirators provide NIOSH rated protection to professionals working in dusty/particulate atmospheres, with a compact design to minimize interference with safety eyewear, and a simple push-in check mechanism for easy face seal validation."

For more information, visit www.kleintools.com



Eaton's Wiring Devices Unveils Commercial Labor-Saving Modular Receptacles and Switches

Designed to provide the most efficient way to wire receptacles and switches for large commercial projects, the Arrow Hart EZ Link™ modular devices reduce installation costs and timelines and allow for secure, aligned, and accurate installation faster than traditional wiring.

The heavy-duty EZ Link devices enable installers to wire a connector during rough-in and easily and quickly install the device at trim-out, saving time and skilled labor hours. Ideal for high-rise office buildings, hotels, and other large projects, the modular design makes replacements and future enhancements easy as well.

The unique sliding, arrow-shaped design allows the connector to slide and lock into place onto the back of the device, guided by rails for accurate alignment. Releasing wings provide an easy, one-handed release of the device, while offering two points of capture to stay securely attached to the device.

Additional features and benefits include:
- Arrow shaped connectors easily identify insertion direction, preventing incorrect installation.
- Slim profile allows more room in the electrical box for rapid installation.
- Wire relief slots allow sharp bending to easily push all the wires back into the box.
- Gripping ridges provide a secure grip for the installers.
- A dedicated labeling area adds convenience to meet special labeling needs.
- Heavy-Duty design provides ultimate durability for the most demanding environments.
- Devices meet all UL20 (switches) and UL498 (receptacles) applicable requirements and is FedSpec certified.

For more information, visit www.Eaton.com/EZLink

KUIKBOX
MADE IN THE USA
"When using KUIKBOX, it changes how you think about electrical installations."
Cut the time and hassle of electrical installation by over 65% with KUIKBOX. Whether you're doing a commercial project or simply working at home, KUIKBOX can make the job easier, faster and more cost-effective.
Comes with two-pre-installed ground screws to accommodate an optional ground/lug bar
17 Minutes
VS
2.5 Hours
Includes brackets for installation on steel-lined walls
Any square cover can be installed on KUIKBOX
Optional dividers allow for multiple voltages in one KUIKBOX
KUIKBOX is perfect for making a clean and professional-looking electrical installation and allows for quick expansion and add-ons after the project is complete.
KUIKBOX Electrical Enclosure Systems are available in six spacious box sizes.
2 Gang
4 Gang
6 Gang
8 Gang
10 Gang
12 Gang
KUIKBOX is designed to be used with ANY generic electrical square cover.
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Evluma's New Roadway Luminaire, RoadMax RX3, Replaces 150-400W HID Cobraheads

Evluma crowns their versatile roadway product line with their largest LED roadway luminaire to date. The RoadMax RX3 is positioned to assist municipalities and utilities retire inefficient and maintenance-intensive legacy HID cobraheads on major roadways.

Evluma announces the release of the LED RoadMax RX3 roadway luminaire. The large, triple-light-engine RX3 is up to 50% more energy efficient than the 150-400W HID cobraheads it's positioned to replace.

The RX3 completes Evluma's RoadMax series of low-glare roadway luminaires. The release of the RX3 also kicks off a series of new features that will roll out over the entire product line, including 277-480VAC compatibility. The RoadMax RX3 is available in model wattages ranging from 120-300W. Optionally, an adjustable lumen output switch increases service efficiency by expanding each model wattage with an additional seven output settings.

Like the rest of the RoadMax luminaires, the RX3 is distinguished by its sophisticated, durable design and low-glare, precision optics. Multiple luminaire configurations for Type II, Type III, Type IV and Type V, all with zero-uplight (U0), are offered. Proven to further reduce glare, the RX3 is released with signature RoadMax secondary lenses. Innovative field-installable shields curtail light trespass. The large roadway luminaire can be ordered with a 7-pin socket for networked nodes and 20kV/10kA Extreme surge protection. Like all RoadMax, the RX3 can be customized to include Evluma's Photocontrol Failsafe, a patented technology that solves photocontrol failures on street and area lights.

The RoadMax RX2 spanning 70 – 220 watts was released in March of 2023 and the award-winning RX1 offered in 30-100 watts was released in March of 2022. "Color temperatures, efficacy targets, expanding specifications, adherence to RP-8-22 (IES) plus citizen feedback are just a few factors that can influence the choice of roadway luminaire. Overlapping wattages between each size luminaire (small, medium, large) allows for a variety of choices in efficacy (lm/W) and light output. It also affords additional flexibility if the goal is to stock fewer SKUs," stated Evluma Marketing Director, Cathleen Shattuck. "With a 10-year warranty and 20kV/10kA surge protection the RX3 crowns this robust line of roadway luminaires."

For more information, visit www.evluma.com

M18 FUEL™ Overhead Rotary Hammer with Integrated Dust Extraction

The M18 FUEL™ Overhead Rotary Hammer with Integrated Dust Extraction is a new to world solution that delivers superior ergonomics for overhead drilling and simplified dust collection. The built-in dust extractor creates a lighter weight and more balanced design, while the new side handle design allows the operator to maintain better posture throughout the application for lower fatigue. AUTOSTOP™ Kickback protection offers enhanced safety for the operator by preventing over-rotation in a bind-up. The POWERSTATE™ Brushless motor provides the fastest drilling for small ceiling anchors and enough power to complete up to 5/8" holes in concrete.

For more information, visit www.milwaukeetool.com

Affordable test equipment for 2024

TOP PRODUCTS Electrical Products & Solutions 2023

Spitifire - Buried Low Voltage Cable Fault Locator
- Accurate
- Easy to use
- High energy output
- Proven reliability
- Compact design
- Lightweight

Impulse Phaser - Cable / phase system
- Accurately identifies cables in trenches, vaults, conduits and enclosures
- Accurately identifies phases in multi-conductor cables
- Identifies jacketed, shielded, cables, even in pipe
- Easy to understand and use

Wayfind'r - Impulse cable tracer
- Accurate
- Easy to use
- Connects directly to energized cables
- Distinct signal for easy tracing
- Traces direct buried and cables in conduit
- Rugged, compact design

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ShowStopper
WINNER

NEW

EZ Stub-Up
SUPPORT BRACKET

MADE IN USA

- Support and secure multiple conduits and sizes with brackets and/or uni-strut at a single stub-up location
- Use nylon wrap around conduit straps, minerllacs, one-hole straps or Ty wraps to secure conduit to bracket or uni-strut
- 16 guage galvanized steel
- SUITABLE FOR 1/2", 3/4" or 1" PVC SCH 40/80 Stub-Ups

INSTALLATION:
1. Position bracket on deck before the concrete pour
2. Fasten bracket to deck
3. Secure conduit to bracket or uni-strut with nylon wrap around conduit straps, minerllacs, one-hole straps or Ty wraps
4. Pour slab

Use Nylon Wrap Around Conduit Strap (IP10) to secure conduit to Uni-Strut

PATENT PENDING

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New Ratchet and Driver System from Klein Tools® Features 60 Versatile Bits

Klein Tools, for professionals since 1857, introduces the 64-Piece Precision Ratchet and Driver System, with 60 versatile bits, a micro-ratchet and a magnetic adjustable precision screwdriver to maximize access in tight and narrow spaces.

Precision Ratchet and Driver System, 64-Piece (Cat. No. 32787)

- 60 bits in one set:
  - 33 precision bits
  - 16 standard bits
  - 11 nut drivers
- Low-profile micro-ratchet to provide maximum access and extra torque
- Magnetic, adjustable 1/4-Inch / 3.5-mm bit holders for standard and precision bits
- Precision screwdriver Cushion-Grip™ handle with spin cap for precise control
- Case is designed to nest neatly within MODbox™ Toolboxes and on the MODbox™ case adapter side rail attachment

"Trade professionals need to always expect the unexpected, and we strive to provide ever-more efficient and compact solutions to equip them exactly for that," says Tony Glatz, associate product manager at Klein Tools. "The Precision Ratchet and Driver System provides essential bits for both 1/4" and precision applications, bridging the gap between these two 'drive' mediums."

For more information, visit www.kleintools.com

Gray Tools Introduces Insulated Hex Bit Socket Set

Gray Tools introduces a 16-piece insulated hex bit socket set. Made in the U.S.A., the set features both SAE and metric sizes, contained in a convenient carrying case with a foam organizer. All pieces have dual-layer insulation, providing user protection up to 1,000 volts in a variety of electrical applications.

Gray's new 3/8" drive socket set (part no. 25016-I) includes seven SAE hex head sockets, ranging from 1/8" to 3/8", as well as seven metric hex head sockets from 4 to 10 mm. Also included in the set is an insulated 42-tooth round head ratchet and a 3-inch extension attachment. Each bit has its size clearly marked for easy identification. The sockets and accessories are neatly stored in a 5S dual-color foam organizer with sizes imprinted on the top layer. The foam tray fits perfectly in the durable carrying case with metal latches, which provides convenient transport to the jobsite and is compact enough to store inside a toolbox drawer.

Underneath two layers of protective insulation is the same Gray tools professionals have trusted since 1912. People who do extraordinary work for essential service providers and many other industrial facilities across North America trust the quality and dependability of Gray tools. Every piece in the set undergoes a rigorous multi-step insulation process to meet compliance with ASTM F1505 standards. When the process is completed, each tool is charged with 10,000 volts of energy for 180 seconds to ensure its insulation resists potential electric shock. Other tests are performed to verify the flame resistance and durability of the insulating material.

In addition to offering protection for up to 1,000 volts, the dual-colored insulation serves as a visual safety indicator. If the outer orange layer of insulation becomes damaged, an inner yellow layer alerts the user that the tool is no longer safe for use.

"As more vehicles and other equipment become electric powered, the demand for industrial-quality insulated tools increases as well. We're happy to meet that need through our growing line of insulated tools, including the new hex bit socket set," said Dragos Baicoianu, Marketing Manager, Brand and Digital. "We're committed to supporting our customers through this transition to electric, using our expert tool knowledge and experience dating back to 1912."

For more information, visit www.shopdynamictools.com

The Heavy Duty Nonmetallic
CABLE RACK
UNDERGROUND DEVICES, INC. UD
For Power and Communications Manholes And Vaults

PRODUCT FEATURES:
- High Load Capacity
- Will Not Rust or Corrode
- No Grounding or Bonding
- Insulators Not Required
- Excellent Dielectric Properties
- Molded from UL Listed Glass Reinforced Polymer

TOP PRODUCTS Electrical Products & Solutions 2023

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

UNDERGROUND DEVICES INCORPORATED
UNDERGROUND DEVICES, INC. UD
420 ACADEMY DRIVE
NORTHBROOK, IL 60062
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Website: www.udevices.com

M18 FUEL™ Overhead Rotary Hammer with Integrated Dust Extraction

The M18 FUEL™ Overhead Rotary Hammer with Integrated Dust Extraction is a new to world solution that delivers superior ergonomics for overhead drilling and simplified dust collection. The built-in dust extractor creates a lighter weight and more balanced design, while the new side handle design allows the operator to maintain better posture throughout the application for lower fatigue. AUTOSTOP™ Kickback protection offers enhanced safety for the operator by preventing over-rotation in a bind-up. The POWERSTATE™ Brushless motor provides the fastest drilling for small ceiling anchors and enough power to complete up to 5/8" holes in concrete.

For more information, visit www.milwaukeetool.com

Russelectric, A Siemens Business, Offers RTS-30 Series Automatic Transfer Switches for Hospitals and Healthcare Facilities

The most complete line of rugged 480 VAC 30-cycle and 3-cycle UL tested switches available

Russelectric, A Siemens Business, a leading manufacturer of power control systems and automatic transfer switches, announces the Russelectric RTS-30 Series of automatic transfer switches for hospitals, healthcare facilities and other critical facilities, the most rugged and complete line of 480 VAC 30-cycle and 3-cycle UL tested switches available in the market today. All Russelectric RTS-30 Series automatic transfer switches have been fully tested, listed, and labeled for 30-cycle and 3-cycle closing and withstand ratings under UL-1008. In addition, the RTS-30 meets all requirements for legally required standby systems for selective coordination.

The RTS-30 Series of transfer switches feature preloaded springs and an over-center mechanism driven by an electric operator for opening and closing the power contacts. During an open-transition transfer, the contact mechanism is securely locked in position until the over-center position is reached. The preloaded springs then instantaneously open the closed contacts (quick-break) and instantaneously close the open contacts (quick-make) with a momentary break in between. The quick-break feature provides for rapid full arc interruption, under maximum voltage and amperage, reducing contact erosion and increasing useful life.

Control components and wiring can be replaced without removing the RTS-30 transfer switch from its enclosure. The neatly arranged, front-connected, flame retardant, 600-volt SIS rated switchboard wiring simplifies electrical circuitry tracing. Heavy-duty control components and contacts ensure switching requirements are easily handled. All wiring connections are labeled with sleeve-type markers, easily visible from the front of the cabinet.

RTS-30 Series open-transition transfer switches are ideal for basic transfer applications and for high inductive load transfer applications. Featuring a quick-break, quick-make, high-speed transfer mechanism, they provide positive mechanical interlocking and simple electrical operators. The switches offer rapid arc quenching. The safe external manual operator provides the same quick-break, quick-make operation as an electrical operator. They are available in both 3- and 4-pole configurations and feature front accessible wiring.

Also available are RTS-30 Series closed-transition transfer switches, which offer rapid closed-transition retransfer to the preferred source and for testing – with zero power interruption. This switch provides high-speed quick-break, quick-make, open-transition transfer upon the loss of the preferred power source. These switches also feature simple electrical operators and rapid arc quenching. They are available in 2-, 3-, and 4-pole configurations and feature front accessible wiring.

For more information, visit https://www.siemens.com/us/en

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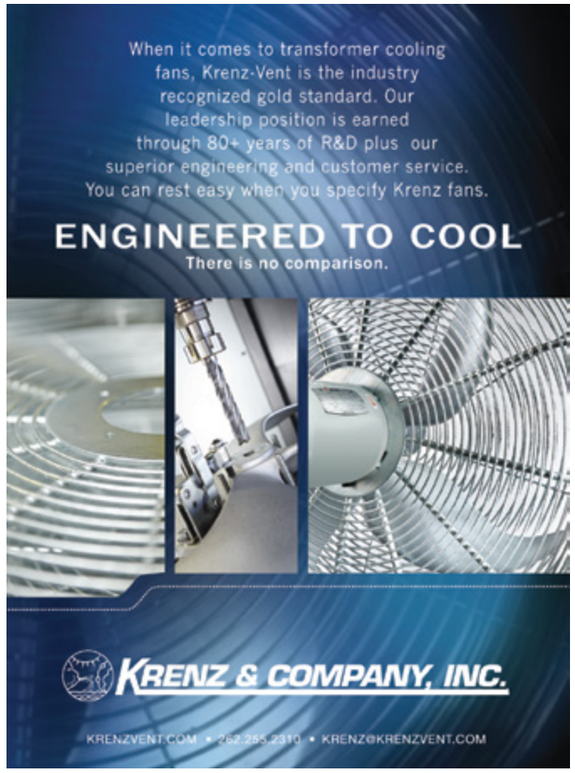

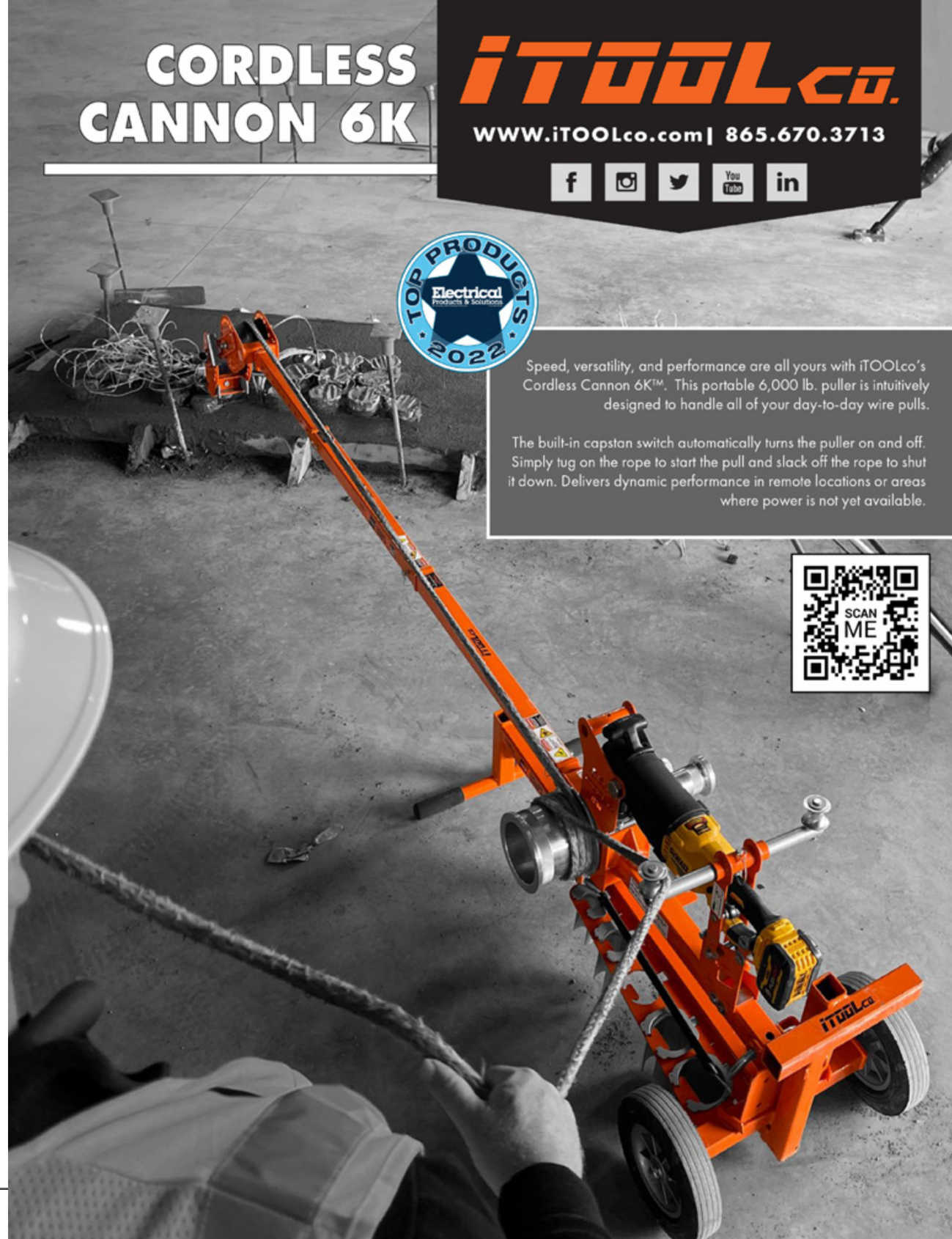

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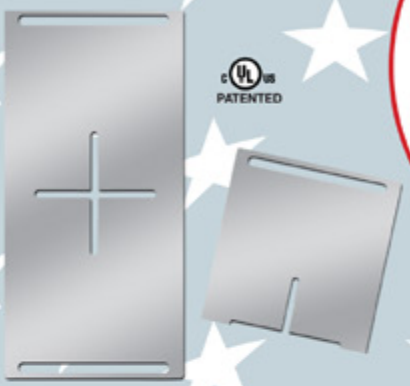
IP5
"The Original"
Enter Any KO on Both Sides of the Box

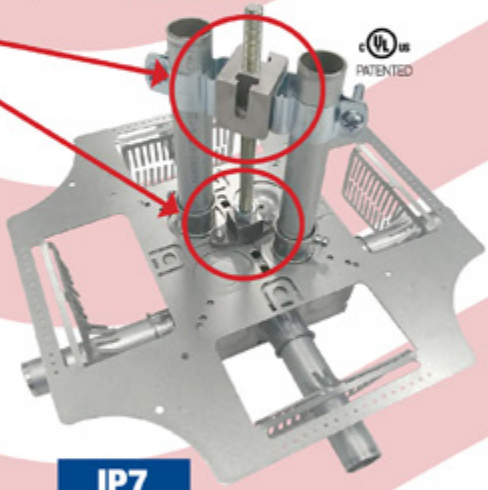


IP19/20
4-Conduit Block
PATENTED

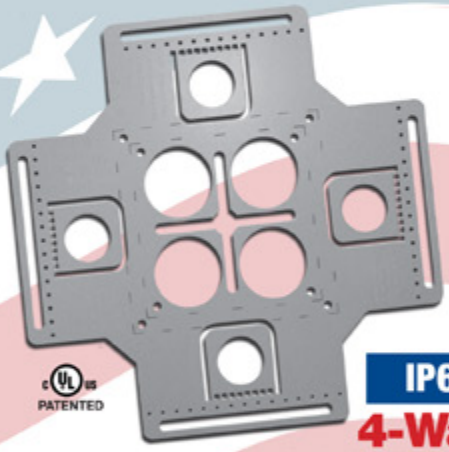
IP21a
QwikBlock
PATENT PENDING

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

IP6d
2-Way
with Split Fingers for Horizontal or Vertical Installation

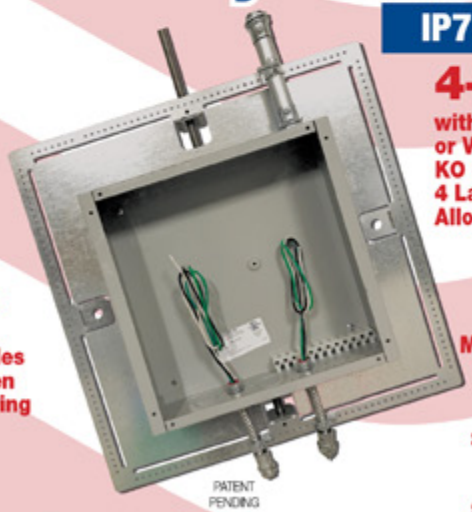


Our Family of Conduit & Box Support Plates Saves Valuable Time & Money!



IP6
4-Way
Enter Any KO on All 4 Sides of the Box Plus 4 Large Open KOs in Center Allows Entering Back of Box

IP6a
2-Way/Half
Enter Any KO on 1 or 2 Sides of the Box Plus Large Open KOs in Center Allows Entering Back of Box



IP7
4-Way
with Split Fingers for Horizontal or Vertical Installation. Enter Any KO on All 4 Sides of the Box Plus 4 Large Open KOs in Center Allows Entering Back of Box.

IP8
Mount Horizontally or Vertically from One Single Support

20 x 20
Supports up to 12 x 12 J-Box

28 x 28
Supports up to 20 x 20 J-Box

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