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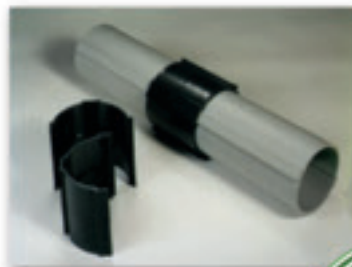


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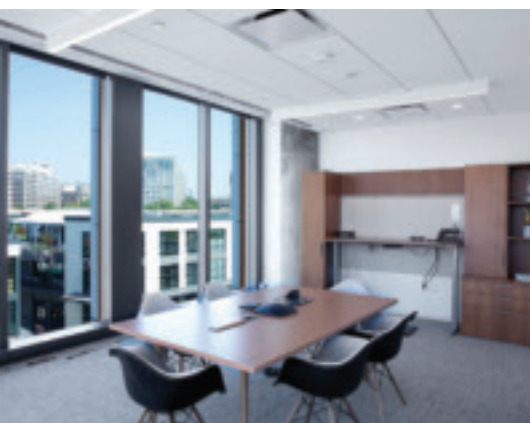
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Their Space. Their Personal Lighting Experience.

The Michael Best Law Firm is Using Lighting to Retain and Recruit the Best Legal Minds



WHEN IT MADE THE DECISION TO RELOCATE its Washington D.C. office, Michael Best LLC mapped out a laundry list of both critical and aspirational items it wanted to incorporate into the design of its new space. Being a firm that was growing its intellectual property book of business, it had first-hand knowledge of new and emerging technologies that could make the new space one of the most innovative, comfortable and appealing in the entire city.

LED lighting controlled by color temperature tuning capabilities was at the top of the list. What began as an item on the wish list is now one of the first

commercial office environments where SpectraSync™ Color Tuning Technology from Hubbell Control Solutions is being used.

(CONTINUED ON PAGE 8)


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In commercial environments, good design has become synonymous with talent hiring and retention. Being a design build, Michael Best realized it had a significant opportunity to incorporate many of the items from the wish list. With a keen understanding of the LED lighting marketplace, the firm decided it would integrate more than just cutting-edge luminaires into the design and added color temperature tuning (“CCT”) lighting technology to the spec list.

After evaluating solid-state lighting (“SSL”) products and control systems from a number of vendors, the general contractor – Harvey-Cleary Builders – and Michael Best selected Hubbell Lighting as the luminaire and controls supplier. Hubbell’s local agent, One Source Associates, was tapped to develop a tunable SSL system that would meet the needs of varying light color and quality to provide employees ideal light while also meeting LEED requirements for energy efficiency.

Even with an open office layout with many large windows and significant daylighting options, there would still be areas where employees don’t receive enough daylight due to factors such as season, cloud cover, desk orientation and window shade position. Research shows that occupants see real value in being able to

(CONTINUED ON PAGE 12)

The Location and Design

Michael Best is a full-service global law firm with more than 250 lawyers and 13 different office locations across the United States. The firm serves regional, national and international corporations, as well as municipalities, trade associations, nonprofits, family trusts and individuals. Its clients range in size from small start-up ventures to global Fortune 500 companies in many different industries, and it has a long history of serving clients in the consumer and industrial products sectors. As those sectors evolve, its practice has grown to encompass a diverse range of technology and software clients.

Previously Michael Best had lawyers based at 602 Pennsylvania Avenue and the Strategies division operating at 801 Pennsylvania Avenue. The firm decided to consolidate operations at the new District Wharf development along the southwest waterfront.

Previously the D.C. historic fish market, The Wharf has been developed to become the city’s premiere meeting place, where restaurants, entertainment, events and the waterfront lifestyle beckon natives and visitors.

To attract and retain the best employees, Michael Best decided it would base

its new office in 31,000 square feet of Class A office space at 1000 Maine, one of the first commercial office facilities built at The Wharf. Featuring impressive natural light and ten-foot floor-to-ceiling windows, the spaces within this commercial facility offer some of the best views of the city, the Potomac River and the nation’s landmarks.



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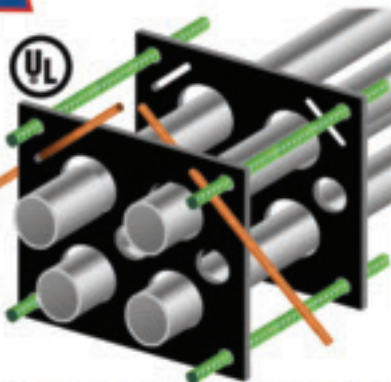
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control the lighting temperature in their spaces. By strategically integrating this technology into its design, the firm understood it would then be able to add to its already impressive list of perks for current and prospective employees.

These areas were targeted to benefit substantially with the SpectraSync solution.

The SpectraSync Experience and the Human Impact

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four presets that can be customized in the field or utilized with default programming from the factory. One advantage of the presets – it provides the occupant with the proper color and intensity of light rather than an average light level or high CCT, without compromise to vertical illuminance.

Michael Best elected to use the following presets:

- “Focus” – 5000K
- “Work” – 4200K
- “Normal” – 3500K
- “Calm” – 2700K

Additionally, the NX Specialty Switch Station provides employees with the ability to raise and lower the brightness of the lighting, as well as turn the lights on and off in a room or designated zone. This can be used in conjunction with the color tuning wall station and operates independently from the color control. This offers employees another level of dimming control they can select based on their mood, the requirements of work to be done in the space and daylighting conditions.

Kevin Barner, managing partner for the Washington D.C. office of Michael Best, can set meeting spaces to cool lighting during business and warm lighting during a special (CONTINUED ON PAGE 14)

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“Adjusting office lighting to simulate changes in outdoor sunlight levels, based on the time of day, can enhance employee productivity. Happier employees are more productive and more likely to stay with us. Bottom line: this technology helps make people more comfortable, based on their personal preferences.”

– Kevin Barner, Managing Partner Washington D.C., Michael Best

social event. In addition to the Litecontrol MOD fixtures, Prescolite’s LF4 and Kurt Versen’s 5 Round Xicato are used in common areas, conference rooms and the lobby.

Employees have the ability to adjust the SpectraSync-enabled luminaires in their offices, workspaces and conference rooms with the simple touch of a button. Employees can adjust the lighting to meet their personal preferences, enhance visibility, materials and colors or the aesthetics of the space.

Because the SpectraSync system runs on the NX Distributed Intelligence backbone, there’s opportunity for Michael Best to tweak the system and make up-

dates as needed. Through its work with technology companies, Michael Best is aware that light does have an impact on people. Ongoing research is being facilitated to understand how light can affect human sleep cycles, health and productivity. For example, the integral NX sensors allow Michael Best to automatically adjust brightness levels to account for incoming natural light. Vacancy sensors are already being used to override control of all fixtures, enhancing the project’s efficiency.

Neither industry nor academia have fully converged a prescriptive approach for circadian lighting. A considerable amount of ongoing research is being

conducted to identify how different intensities and colors affect people at a neurological level. It has been proven that adjusting office lighting to simulate changes in outdoor sunlight levels, based on the time of day, can enhance worker productivity. Both daylight, courtesy of Earth’s 24-hour light–dark cycle, and electric light can drive the human circadian system, internal clocks that regulate daily behaviors and the timing of biological processes, such as the release of the hormones melatonin and cortisol, which help control blood sugar and affect energy levels.

In August 2019, the University of Oregon published a whitepaper, “The Impact of Lighting and Views in the Workplace of the Future.” The paper concludes that daylighted spaces with controlled lighting and views can improve occupant well-being, workplace productivity, and satisfaction by positively influencing various physiological and psychological processes. The researchers concluded, “lighting and views also impact property value and employee recruitment and retention.”

However intangible, the lighting solution that supports this office is seen as an advantage for Michael Best, since happier employees are more productive and more likely to stay in an organization. Anecdotal evidence shows employees are more comfortable based on their personal preferences.

This project demonstrates that light impacts people, and office space that is designed around the users of the space, rather than the space itself, can be a strategic asset. By getting the lighting right, it has become an environment everyone wants to spend time in. □



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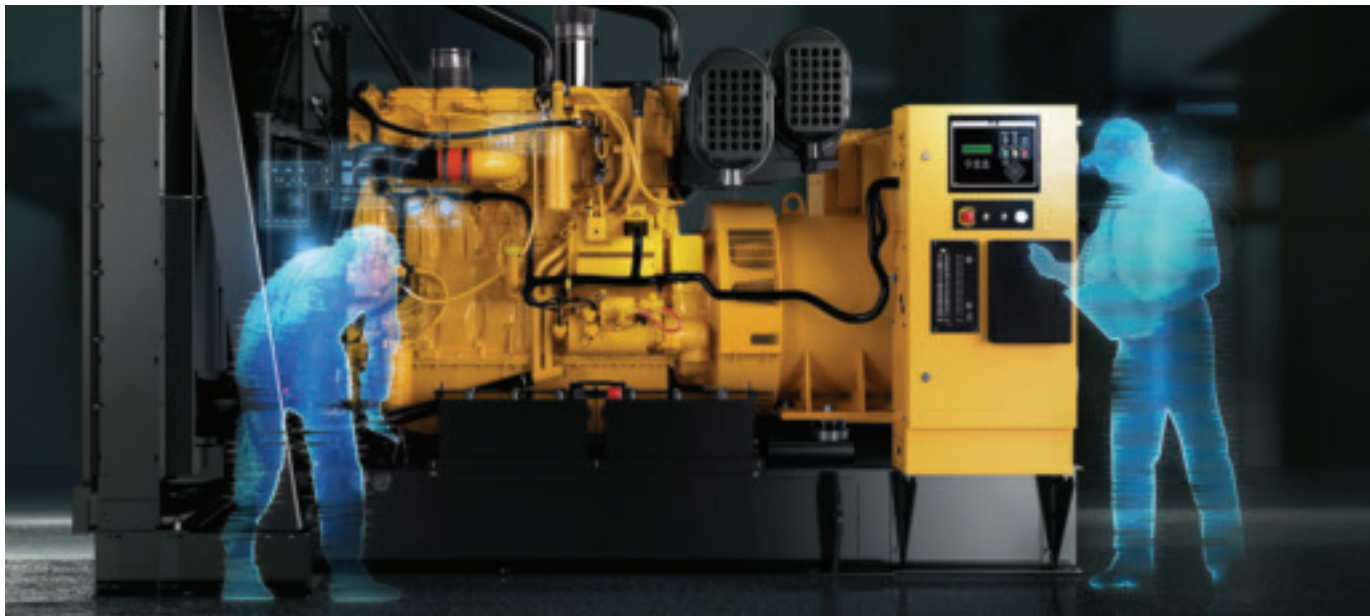


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Moving Beyond Supervisory Control and Data Acquisition (SCADA)

BY MAGY KRAMER, ELECTRIC POWER, CATERPILLAR INC.

ABSTRACT

Remote connectivity and monitoring for generator sets offers multiple opportunities to enhance reliability, increase efficiency, regulate emissions, optimize performance and reduce cost in distributed power settings – all without expensive capital investment in on-site IT infrastructure.

INTRODUCTION

The days of technicians monitoring generator sets by reading gauges and making adjustments by turning dials or wrenches are long gone.

SCADA systems years ago replaced most manual checking of performance, fine-tuning of operations, and storage and analysis of data. But today, SCADA is being eclipsed by remote monitoring and control via Internet and wireless communications.

Remote monitoring, also commonly called connected services, is increasingly accepted for distributed generation sites. Among many benefits, it enables operators to receive continuous data on engine and electrical parameters, receive real-time alerts and alarms, detect engine or generator faults that could threaten a shutdown or failure to start, and generally optimize business performance.

DIVERSE APPLICATIONS

Distributed generation is growing as electric utilities increasingly rely on decentralized power sources. These can include not just gas or diesel generator

sets and turbines but also wind and solar installations, with or without energy storage. Some installations combine two or more of these sources, providing flexibility to optimize cost, sustainability, and other imperatives in meeting electric energy demand.

Distributed resources may or may not be grid-connected. Common settings include small municipalities, universities, military bases, heavy industries (especially where utility power is unreliable), remote mine sites, and small utilities and independent power producers looking to supplement their centralized generation assets.

All of these, plus backup power systems for hospitals, data centers, and other facilities where uninterrupted power is critical, are candidates for remote monitoring. The capabilities of remote monitoring have different values depending on the power application.

ADVANTAGES OVER SCADA

Remote monitoring significantly exceeds the capability of SCADA. Typically, a SCADA system exists inside the facility firewall; there is (CONTINUED ON PAGE 18)

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Figure 1

limited ability to extract data to the outside and to monitor and compare gensets across multiple sites. The ability to trend data over time is also limited, usually to about 30 days. The primary function of SCADA is basic control and the setting of limits for alerts and alarms.

On the other hand, remote monitoring systems, such as Cat® Connect from Caterpillar, can monitor an essentially unlimited number of gensets at sites around the world and display them all in a single dashboard view (see Figure 1). It can synthesize data across multiple sites and

geographic areas and help users compare the performance of sites and individual assets. An entire year of data is retained for trending and analysis. In addition, data can be archived for up to 10 years, enabling users to compile extensive reports for compliance documentation or for internal and external audits.

On a basic level, remote monitoring provides more proactive oversight than SCADA typically can. For example, trending capability can detect a condition, such as an air filter becoming obstructed or oil or other fluid deteriorating, before a SCADA alarm is triggered, so staff can make a scheduled repair.

On a deeper level, remote monitoring lets users combine machinery data with business data to support more effective problem-solving and better-informed operating decisions that further strategic goals. Remotely collected data can be fed to a web-based asset monitoring application for analysis to help drive business insight.

Remote monitoring can also help distributed generators deal with the coming wave of retirements among domain experts in power facilities. It enables a smaller number of skilled people to exert control and provide support across multiple facilities and large geographies.

SIMPLE TO IMPLEMENT

The monitoring technology itself is relatively simple. Machine data is captured and stored in the generator set controller. A configuration file translates that data into language that can be read by the monitoring application. A telematics device then sends the data to the application as often as once per second for the operators to view and analyze.

Connecting a manufacturer's current-model genset controller to its own remote monitoring application (for example, a Cat generator set to Cat Connect) is generally a simple half- to four-hour procedure. Connecting an older-generation controller, or (CONTINUED ON PAGE 20)



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another manufacturer's controller, may require extra engineering to create the necessary configuration files because there is no single industry standard for remote monitoring in electric power applications.

A remote monitoring deployment starts with a site assessment that takes an inventory of the gensets, their controls, and the data those controls collect. The results determine the complexity of the required engineering needed to create custom configuration files. The next step is to test the data to verify that it accurately reflects the generator set operating parameters. Once engineered, deployed, and tested, a remote monitoring application such as Cat Connect can monitor a genset fleet of essentially unlimited size with units of different ages and from a diverse mix of manufacturers.

Cat Connect technology's (Product Link™ hardware) end-to-end system is designed with multi-layer security controls and safeguards to protect against unauthorized access and disclosure (seen in Figure 2).



Figure 2: End-to-End Architecture of Cat Connect Technology and Services

MONITORING IN ACTION

Remote monitoring does not completely relieve operators of physical site and equipment inspections. While most data is captured digitally, visual inspection remains valuable for detecting abnormal conditions such as leaking fluid or corroded battery terminals. This information can be merged with remote monitoring data to help operators proactively identify issues that would cause downtime or a failure of a generator set to start.

After this troubleshooting and diagnostics, field work can be planned remotely

by accessing manufacturers' product support information and maintenance schedules. Operators can use the application to collaborate with a service provider and schedule repairs or maintenance at an opportune time. The tasks performed are documented in the application. Once the genset is restarted, operators can observe through the application that all faults and alarms have been cleared.

SAFEGUARDING DATA

As in any data communication, data security is essential (CONTINUED ON PAGE 22)

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in remote genset monitoring. Monitoring providers have their own end-user license agreements, which tend to be complex and legalistic. In essence, though, an effective agreement boils down to four basic principles:

- **Transparency.** Users must opt in, and no data is collected without their explicit approval.
- **Protection.** Data security measures are regularly improved to protect collected data against loss and unauthorized access.
- **Value creation.** Data is used to add value to customers, such as by improving safety, reducing ownership cost, checking and maintaining product health, enhancing service quality, and driving development of better products.
- **Respect for data rights.** The same data privacy and security policies apply to service vendors and other third parties who may work with customers' data.

Within the genset user's operation, data is password-protected; only authorized persons have access and managers can define what level of data rights each person has.

A LOOK AHEAD

Today's SCADA and remote monitoring systems feature interfaces with two-dimensional graphics, alarms and alerts, and simple overviews of operating data. The arrival of virtual reality (VR) and augmented reality (AR) make such presentations seem primitive by comparison, like first-generation video games.

VR and AR help users process and contextualize data by presenting it in three dimensions. For remote troubleshooting, for example, it is already possible for an engineer at a remote monitoring provider to have a digital twin of a genset on screen, overlaid with machine data. Meanwhile, a technician stands in front of the physical genset, but with a matching 3D image on a tablet computer,

again with machine data overlaid. This kind of collaboration can significantly help the two parties talk through, contextualize, and solve problems.

On a grander scale, there is movement toward a virtual power plant where remote experts can digitally "walk through" the facility and discuss issues with maintenance and operations teams. Travel and training cost are significantly reduced.

Beyond monitoring, maintenance, and operations, VR and AR hold potential to attract younger people into the distributed power industry. Increasingly, newer generations expect VR and AR to be part of their work environment.

Irrespective of those developments, remote monitoring for distributed generation is here to stay. Given its relative simplicity and low cost and the value users can derive, it has become an essential tool for extracting the maximum business advantage from distributed power applications. □

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GB's newest line of LED work lights brings the best in innovation, technology, durability and versatility.

3 new LED lights offer a wide range of watts and lumen output for all applications. Other features also include Bluetooth wireless speaker technology, IP65 weather-proof rating, 25-foot drop testing, industrial grade magnets, quick release stands and universal mounting brackets.

Whether it is on a jobsite, an at-home remodeling project and even outdoors in the harshest environments, one of Gardner Benders LED work lights will satisfy your needs.

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- MADE IN THE USA



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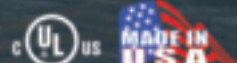
ITEM PN#	CORD LENGTH	WIRE GAUGE
97025	25ft	16/3
97050	50ft	16/3
97100	100ft	16/3
98025	25ft	14/3
98050	50ft	14/3
98100	100ft	14/3

POWER BLOCK 5-15P & (3) 5-15 RECEPTACLE

ITEM PN#	CORD LENGTH	WIRE GAUGE
99025	25ft	12/3
99050	50ft	12/3
99100	100ft	12/3
90050EXT	50ft	10/3
90100EXT	100ft	10/3

POWER BLOCK 5-15P & (3) 5-15 RECEPTACLE

ITEM PN#	CORD LENGTH	WIRE GAUGE
98025PB	25ft	14/3
98050PB	50ft	14/3
98100PB	100ft	14/3
99025PB	25ft	12/3
99050PB	50ft	12/3
99100PB	100ft	12/3
99002PB	2ft	12/3



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150 Watt

12,000 Lumen
100 Watt

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Myers Emergency Power Systems Announces Acquisition of Low Voltage Systems, LLC

Market-leading emergency lighting and power manufacturers join forces

Myers Emergency Power Systems (Myers EPS), a leading designer and manufacturer of backup power solutions, today announced the acquisition of Low Voltage Systems, LLC (LVS). Headquarters in San Leandro, California, LVS is a family-owned manufacturer of commercial lighting solutions with a leading position in the rapidly growing emergency lighting control and mini inverter segments of the industry. Leon Hermans, the president and majority owner of LVS, will retain an investment in the business and will continue to support the company's future growth and profitability as a senior member of the combined management team.

"LVS is a great addition to Myers EPS as its lighting control products comple-

ment our inverter systems," said John Daly, chief executive officer, Myers EPS. "LVS' leadership will add depth to the management team."

LVS represents an opportunity for Myers EPS to partner with the leading provider of emergency lighting controls, expanding Myers EPS' product offering to include both emergency backup power solutions and the lighting controls for these solutions.

"Myers EPS' customer-centric culture and commitment to technical excellence are a natural fit for LVS. We look forward to partnering with John Daly and the rest of the Myers EPS team to grow the combined business together," said Leon Hermans, president, LVS.

Emergency lighting is required by codes

in all commercial buildings to enable safe egress in the event of a power disruption and emergency lighting controls engage when the disruption in power is sensed. These controls override energy efficiency functionalities in the event of an emergency to ensure minimum illumination requirements are maintained and must have the capability to integrate with the overall "smart building" ecosystem. Due to their critical nature during power crises and the increase of smart buildings, emergency lighting controls are growing rapidly and heavily regulated. LVS is a leader, innovator and technical expert in this field, offering a wide range of high-quality products across all three classes of controls, a patented self-testing feature and excellent customer service. □

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- QUICK RELEASE BLADE: push button blade release for the fastest blade swap on the market
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- Replacement blades available in single pack or 10 pack
- 10 pack dispenser with magnetic backing

U.S. Pat. D694,603, 9,566,716, 6,658,738
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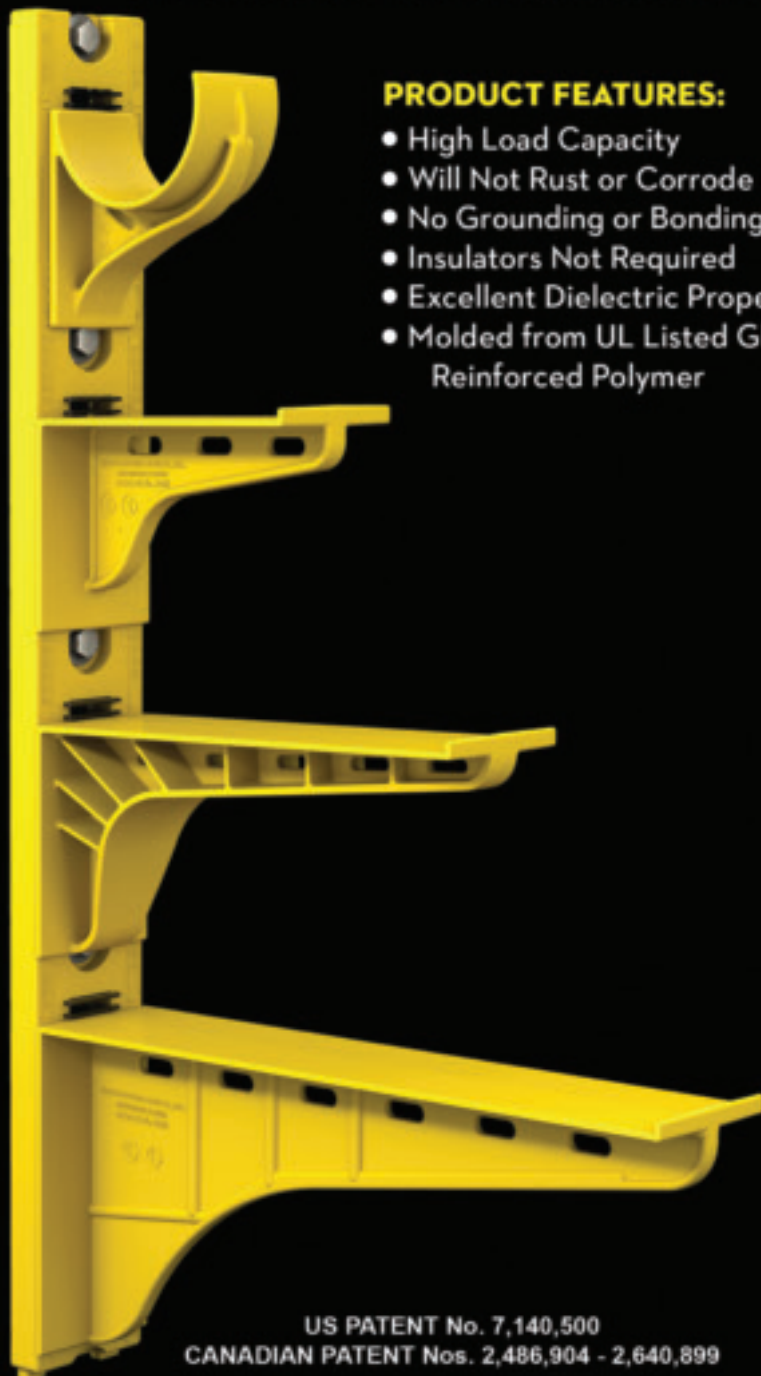
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- Insulators Not Required
- Excellent Dielectric Properties
- Molded from UL Listed Glass Reinforced Polymer



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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Universal Lighting Technologies Partners with DSI Southwest in North Texas, Oklahoma and Arkansas Region

Universal Lighting Technologies, Inc. a global leader in commercial lighting and a member of the Panasonic group, recently announced its partnership with DSI Southwest. DSI is a Dallas-based corporation that has been serving the electrical industry since 1961. The agency will represent Universal's lighting solutions across North Texas, Oklahoma and Arkansas.

"DSI Southwest has a strong industry reputation paired with deep product knowledge, making them the perfect agency to grow and expand Universal's products including our EVERLINE® LED upgrade solutions," said Joe Damiani, executive vice president, sales and

marketing. "This partnership signifies next steps in continued market expansion and our unwavering commitment to supporting our distributor partners."

DSI Southwest champions industry growth by representing quality lines and expansion into new markets. With

more than 50 years of experience, DSI Southwest supports distributors with a foundation of experienced personnel, a wealth of market knowledge and a solid customer base.

For more information on DSI Southwest, visit <http://dsisw.com/about-us> □

About Universal Lighting Technologies, Inc.

Universal Lighting Technologies, Inc. a member of the Panasonic group and a subsidiary of Panasonic Lighting Americas, Inc., engineers, manufactures and markets innovative solutions for commercial lighting across North America, including LED drivers, LED modules, fluorescent, HID and connected devices using wired and wireless technology. Universal's EVERLINE® LED retrofit continuum provides a range of solutions for upgrading fluorescent to LED. With over 70 years of experience, the company is recognized for its commitment to quality and customer service. Learn more about Universal at www.unvlt.com.



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Protect Yourself

Miller Safety Consultants — A Leader in Arc Flash Protection

VINCE MILLER STARTED MILLER SAFETY CONSULTANTS, 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 consult-

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

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

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

The majority of his sales of products

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

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

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

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

*For more information, visit
Miller Safety Consultants at:
www.electricalsafetyproducts.com, email
Vince at: sales@millersafetyltd.com
or give him a call at (703)367-0404.*



The V5™ 40 Cal Ultralight Lift Front Hood System

1. V5™ High-Volume Ventilator with ArcSense Interrupter™
 - Patent-Pending ArcSense Interrupter™ shuts off airflow after an arc flash, preventing further inhalation of manganese fumes
 - 27 CFM blower fans
 - Snap-in design, removable in seconds
2. Milwaukee M12 rechargeable battery and receiver
3. 1:1 Balance: Perfectly balanced back-to-front
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ULTRALIGHT Premium



Protect yourself from "Arc Flash"

ARC FLASH LIFT-FRONT HOOD WITH V¹² HIGH-VOLUME VENTILATOR Compact. Powerful. Reliable

Our V¹² High-Volume Ventilator boasts an unexpectedly quiet, high output (35+ CFM) turbine fan to cool and circulate the ambient air within the hood. Fully protected beneath it's durable ABS shell and added fabric layering, the V¹² High-Volume Ventilator isn't just compliant, it's superior.



40 CAL/CM2 ULTRALIGHT CLOTHING BY OTEX

Our new dual-layer Ultralight clothing takes advantage of DuPont's® dedication to scientific advancement and Westex's® industry leading dependability. Weighing in 37% lighter than traditional HRC4 PPE, our Ultralight Clothing is the most innovative contender in the lightweight arena.

HYBRID LAYERING

Combined Fabric Weight: 14 oz

Outer Layer: DuPont® Protera
Color: Navy

Inner Layer: Westex Ultrasoft
Color: Safety Orange

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Understanding of PoE Crucial for Electricians Installing or Servicing Intelligent Lighting

IDEAL NETWORKS IS URGING ELECTRICIANS to master new skills and equipment now to cope with the growing use of PoE (Power over Ethernet) in intelligent lighting applications. In particular, PoE testers can help electricians to conduct quick, accurate PoE validation, eliminating guesswork and getting the job done faster.

“In just a few short years the use of PoE has migrated from IT devices into building systems like lighting, HVAC and access control,” says Tim Widderhoven, Marketing Director for IDEAL

Networks. “However, the growth of PoE presents issues for electricians, who may have never had cause to work on anything other than traditional electrical cable infrastructure.”

“PoE offers clear benefits in many applications, not least that installing just one set of cabling infrastructure is less disruptive and generally more cost effective,” he continues. “So, to stay ahead of clients’ demands, it’s crucial for electricians to learn the necessary PoE testing

and troubleshooting skills now.”

In 2018 a new standard, IEEE 802.3bt, was ratified and provides the specifications for PoE equipment to provide up to 90 watts of power to devices over twisted-pair Ethernet cabling. This amount of power combined with high-efficiency LED light fixtures makes PoE lighting practical. With 60-90 watts of power available, multiple luminaires or troffers can be daisy chained from a single port on a PoE Ethernet switch, greatly reducing the total system cost and simplifying the installation.

“Electricians installing or servicing PoE lighting systems need to be familiar with the components of PoE lighting systems to ensure proper operation and easily troubleshoot any problems that arise,” says Tim. “Even when live a PoE system is not always energised, so this means that familiar, standard electrical testing tools cannot be used to test PoE systems.”

Instead, there is a range of PoE testers on the market, from simple LED voltage detectors (like a neon electrical outlet checker) to testers which measure voltage and power available to the Powered Devices (PD) on a circuit. For example, the PoE Pro multi-function PoE tester from IDEAL Networks, which measures and reports PoE Class, voltage/voltage drop, watts and injector type, making it easy to see how much power is available.

Previously electricians would have needed to understand all the various standards, device power outputs and cable lengths to be sure a device will operate successfully. However, with PoE Pro, instant, easy to read test results are shown on the large backlit screen, up to a maximum of 90W, regardless of cable length, cable quality or other factors.

PoE test equipment, such as IDEAL Networks’ PoE Pro, can also be used to highlight issues with cable quality. For instance, electricians may encounter copper-clad aluminium (CCA) cable which is constructed primarily of aluminium conductors coated with a thin skin of copper. CCA has a much higher resistance than solid copper cable and should not be used in PoE applications, but due to its very low comparative cost, can often be found in intelligent lighting installations.

As well as being an effective PoE tester, PoE Pro also offers all the features of the IDEAL Networks VDV II Pro LCD cable verifier so there is no need for two separate testers, helping electricians to keep the cost of purchasing new equipment down.

“The rise of PoE presents electrical contractors with a fantastic opportunity to confidently expand their service of-

fering,” says Tim. “Electricians who are equipped with the right testing tools and a functional knowledge of PoE systems will be able to both ensure that new installations deliver the expected performance and quickly identify faults when troubleshooting.”

For more information or to purchase PoE Pro from IDEAL Networks’ online shop, visit www.idealnetworks.net. □



“Electricians installing or servicing PoE lighting systems need to be familiar with the components of PoE lighting systems to ensure proper operation and easily troubleshoot any problems that arise.”

— Tim Widdershoven

ABOUT IDEAL NETWORKS

IDEAL Networks offers easy to use data cable testers for cable installers and network testers to assist IT technicians with troubleshooting. The data cable tester range includes copper and fibre testers for cable verification, Ethernet transmission testing and cable certification that provide proof of performance. The unique network tester range helps to pinpoint and solve networking issues quickly. They decrease downtime by allowing field technicians to discover the root cause of network connectivity issues such as incorrect IP configuration, rogue network services, network bandwidth issues and PoE supply problems.



Hospital Retrofit with Wiremold® Raceway & Device Boxes

An Older Building Faces Wire & Cable Challenges



THE CHALLENGE:

The Geisinger Health System serves more than 2.6 million residents in central and northeastern Pennsylvania. When the integrated health services organization acquired Community Medical Center (CMC) in Scranton, it faced a huge \$80 million project to improve the 232-bed hospital.

Among the changes, a top priority was upgrading the wire and cable infrastructure. Geisinger utilizes the Epic™

electrical medical record system alongside related clinical software. In order to connect rooms throughout the facility to these programs, Geisinger had to reconsider the way their infrastructure was designed. The 1960s-era building was not designed to accommodate data drops. Bob Rowlands, Electrical Engineer of Martin Rogers Engineering Consultants in Wilkes-Barre, commented on this hurdle: “In the patient rooms, the walls were very solid block. We



didn't even consider cutting into them."

The patient rooms were also significantly smaller than rooms designed today. It was hard to find receptacles and data connections in rooms of that size. In addition, connections and cords could easily get damaged from beds and equipment rolling in and out of the rooms regularly. Rowlands and his team were looking for something that would be low profile and out of the way.

RACEWAY & DEVICE BOXES SOLVE CHALLENGES:

Because the wall couldn't be cut into, the team knew they needed something different to accommodate the new systems and software. Wiremold® 2400 BD Series raceway, a metal surface raceway, was the perfect solution. With a low profile and the right capacity, the raceway was



"This box keeps wires and cables out of the way and is one less thing to protrude out and get hit by a bed or equipment cart."



able to deliver power and data connectivity in patient rooms by running along the outside of the wall. Raceway sections were installed vertically on the walls running from the device box up to the ceiling.

Downward-facing device boxes were recommended, as they also provide a low profile and take up no additional space when cords are plugged in. According to Rowlands, this was critical for the sometimes heavy traffic these rooms could see. "This box keeps wires and cables out of the way and is one less thing to protrude out and get hit by a bed or equipment cart," he said.

This renovation was on a tight schedule and involved many different electrical and data contractors assigned to

separate floors working while the hospital was open and active. Despite the large number of contractors and the flux of a working hospital environment, the project was smoothly completed in less than 10 weeks. "We couldn't change the building, so we had to find the best approach. It was the best way to do this project," said Rowlands. □

ABOUT LEGRAND

Legrand is a global specialist in electrical and network infrastructure solutions, delivering access to power, light and data that transforms millions of spaces where people live and work around the world.

New Architectural LED Trapezoid Wallpack from Barron Lighting Group

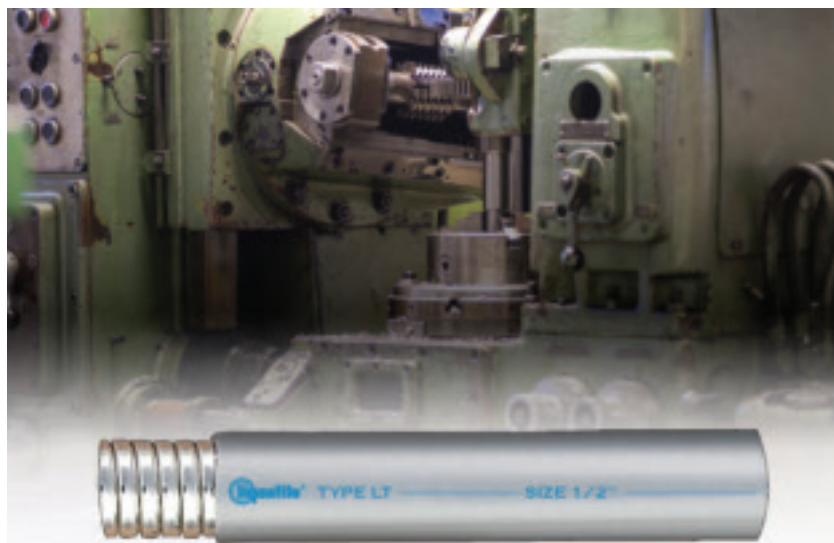
Barron Lighting Group, the parent company to Trace-Lite indoor and outdoor commercial and industrial lighting, announces the addition of the E110X Series architectural LED trapezoid wallpack.

“At Barron Lighting Group, we take pride in offering our customers an expansive and comprehensive line of lighting solutions to fulfill their project needs. Our new E110X Series architectural LED trapezoid wallpack is offered in two housing sizes to complement new construction or retrofit applications, accommodating mounting heights up to 30’,” said Heather McCune, Vice President, Sales Operations of Barron Lighting Group.

The E110X Series is a traditional full cutoff geometric scone designed for optimal light control and distribution. Its die-cast aluminum construction provides ideal thermal management. Lumen packages from 3550 to 12,200 are available in 3000K, 4000K and 5000K CCT with a Type III distribution. This product offers project flexibility with photocontrol, integral motion sensor and battery backup options. The E110X is PREMIUM DLC Qualified for maximum energy savings and utility rebates.



**For more information, visit
barronltg.com**



Oil-Resistant Type LT Flexible Electrical Conduit

ELECTRI-FLEX COMPANY, Roselle, IL USA, announces Type LT Liquatite® flexible conduit is now manufactured with an upgraded PVC jacketing, making LT an improved Oil-Resistant solution. The new jacketing also provides Sunlight Resistance (UV), a wider temperature range, and a flame retardant in the liquidtight jacketing.

Type LT is a general purpose, non-UL, spec grade, liquidtight, steel conduit that is designed for a variety of installations requiring motion, vibration and bending. It now offers working temperatures of -30°C to 80°C Dry / 60°C Wet / 70°C Oil. Applications include Machine Tools (OEM), outdoor applications such as Renewable Energy or Telecommunications, or industrial environments such as, Oil & Gas Refineries, Power Plants, Steel Mills and Utilities.

Type ALT is a lightweight alternative to LT, as the jacketing is made of the same PVC material, but weighs considerably less due to the use of an aluminum inner core instead of steel. Type ALT is resistant to oils and mild acids, is sunlight resistant (UV), lightweight, and contains a flame-retardant in the jacketing.

Type LTSS is a stainless steel core variety that offers excellent resistance to corrosive atmospheres as well as high mechanical strength due to its construction. Type LTSS also utilizes the same LT jacketing, providing oil-resistance, sunlight resistance (UV), and a flame-retardant in the jacketing.

Electri-Flex Company offers over 30 varieties of Oil-Resistant flexible electrical conduit, both metallic and nonmetallic varieties are available, and are well suited for a diverse range of markets and applications.

Electri-Flex Company, a leader in electrical conduit design and manufacture for 65 years, produces Liquatite®, the most diverse line of liquidtight flexible electrical conduit in the industry. The company offers custom design, engineering, quality assurance and testing capabilities.

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

Focal Point Expands Seem® 1 Family with Integrated Point Source Luminaire

Focal Point® expands its Seem family with the introduction of Seem® 1 Point Source. The sleek 1.5-inch aperture linear luminaire delivers design flexibility with a combination of linear lensed illumination and integrated point source downlights.

“Solid State Lighting (SSL) has allowed us to develop luminaires that address multiple needs. Seem 1 Point Source delivers both general and accent lighting from one luminaire, and provides designers the flexibility to mix general and accent lighting to meet the functional needs of a space while also elevating the surrounding architecture,” said Mike Thornton, Chief Marketing Officer for Focal Point, LLC. “This new Seem 1 family member is just another way Focal Point is bringing it all to light for the architecture and design community.”

The luminaire is available in individual units or as linear runs, in suspended, surface mount, and recessed options with direct and direct/indirect distribution options. The integrated point source downlights can be specified with 4, 5, 6, 7 or 8-foot on-center spacing or positioned at the ends of runs. The point source downlights are also available in three distribution and two lumen output options to achieve the desired effect.

The lumen outputs for each light source can be individually specified and controlled for maximum flexibility. Additionally, multiple finishes: Black, Titanium Silver, and Matte White, and color temperatures provide customization options, making Seem 1 Point Source ideal for commercial projects such as offices, lobbies, corridors, and educational environments.

As with all Seem family luminaires, Seem 1 Point Source is part of the Right Light program, with delivered lumen outputs that stay consistent as technology upgrades occur. They also allow for custom programming of wattages and lumen outputs within the standard range to meet LPD requirements.

Bring harmony and unite a space with lines of light using Focal Point Seem products.

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



The new suspended Seem® 1 Point Source



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Romantically Paired

LOVE THE ONE YOU'RE WITH

Topaz's Friendly Tip #9

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Douglas Lighting Controls® Introduces the Conference Room Controls App to its Bluetooth® Wireless System of Devices

Douglas Lighting Controls®, a member of the Panasonic family of companies, recently announced the pairing of its Conference Room Controls App to its system of Bluetooth® Wireless devices. Designed for conference room and boardroom applications, the new iPad control console pairs seamlessly with Douglas Lighting Controls' Bluetooth Wireless eco-system of devices to provide a modern, large format touch screen interface for control functionality.

The Conference Room Control App has the ability to support up to eight zones with a maximum of eight presets. It provides customers with a simple, touch screen solution for controlling light in conference room atmospheres. The app allows users to create preset scenes like meeting, presentation, and video to quickly set the desired light levels with one tap on the screen.

"Modern boardrooms want to showcase the latest technology as this is where their senior executives and best customer will meet," said Audey Korpup, Senior Product Manager at Douglas Lighting Controls. "A user-friendly interface featuring Bluetooth wireless technology for controlling the lights is a great way to enhance a modern boardroom and present a technology forward experience."

The control console app operates on an Apple iPad to set and adjust lights that are controlled with the Bluetooth Wireless ecosystem. Featuring mounting hardware for wall or tabletop applications, the app offers a solution designed to meet specific room requirements for any user. The wall mount can be used in place of wall station switches or a table mounted control solution can be used to place controls directly on the boardroom table or a convenient side table.



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



Platinum Tools® Launches Slit & Ring Fiber Cable Stripper; Now Available

*Designed to Slit and Ring Cables, Buffer Tubes and Jackets on
Fiber Optic Cables with Diameter Ranges of 1.2mm to 6.4mm*

Platinum Tools®, the leader in solutions for the preparation, installation, hand termination and testing of wire and cable, is proud to announce the launch of the new Slit & Ring Fiber Cable Stripper (p/n 15062C). The new stripper is now available with an MSRP of \$16.25.

"Our new Slit & Ring Fiber Cable Stripper is designed to slit and ring cables, buffer tubes and jackets on fiber optic cables with diameter ranges of 1.2mm to 6.4mm," explained John Phillips, Platinum Tools, Inc. product manager. "It is intentionally made to be light and small, making it easy to use in confined spaces."

Additional features and specifications include:

- Slitting V-block is removable and reversible to accommodate various diameters
- Adjustable slit blade and ring blade for exact strip cut depth
- LHW: 2.7in. (72.9 mm); 2.09in. (52.97mm); 0.47in (12mm)
- Weight: less than 1 oz.
- Replacement blades also available (p/n 15063C)

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

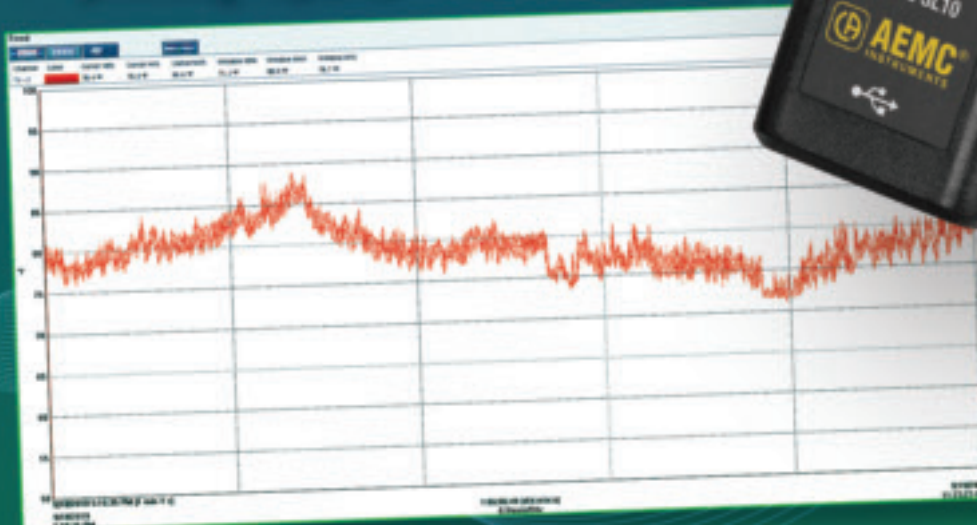
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Hy-Brid Lifts Reveals Revolutionary PS-1930 with Unique Features

Hy-Brid Lifts, the industry leader in high-quality, low-level access equipment, brings lightweight technology to the 19-foot lift market with the introduction of the brand-new Pro Series PS-1930. The 19-foot scissor lift, the tallest model in the Hy-Brid line, offers unique features such as non-fold-down rails and the company's innovative LeakGuard™ system. The new lift meets ANSI A92.20 standards that will go into effect March 2020. The PS-1930 will feature a new color scheme to identify Hy-Brid Lifts' A92.20-compliant lifts, with other models following suit as they meet new standards.

With a platform height of 19 feet and a working height of 25 feet, the PS-1930 is an effective lift for a wide variety of uses including construction, maintenance and other applications. The lift provides additional height to users while still offering the same versatile characteristics that have become hallmarks of Hy-Brid Lifts.

With the new A92.20 standard, the railing heights are increasing. This is causing manufacturers to incorporate folding rails in order to fit through standard doors. Hy-Brid's unique approach allows the PS-1930 to fit through standard doors without fold-down rails, allowing contractors to efficiently move to the next location without wasting time to perform the extra steps of folding down the rails and setting them back up once in place. The lift is also lightweight and compact enough to fit in standard elevators, meaning more access for users on a variety of jobsites. The compact size and maneuverability of the PS-1930 reflects Hy-Brid Lifts' commitment to helping contractors increase productivity by being the first lift on and the last lift off a jobsite.

The lift will debut Hy-Brid Lifts' latest innovation: LeakGuard. This fluid containment system integrates with the PS-1930 to allow for 110% hydraulic fluid containment. The system provides users with a simpler alternative to inconvenient methods such as diapers or other manufacturers' multi-tray systems. Hy-Brid Lifts have always featured only two hydraulic connection points, which greatly minimize the risk of any hydraulic leakage. Although spills or leaks are highly unlikely, LeakGuard will give users peace of mind knowing their flooring is completely protected from hydraulic fluid spillage. The system integrates easily into the unit, making it easy to check for leaks. All Pro Series lifts will come LeakGuard ready, with the option for users to add the pan and pad when they order, or to order it in the future.

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



Klein Tools Launches Insulation Resistance Tester

Klein Tools, for professionals since 1857, introduces the ET600 Insulation Resistance Tester, perfect for electricians and maintenance professionals that install, troubleshoot and maintain electrical wiring and equipment. This versatile tester features voltage test ranges from 125V to 1000V, plus a convenient lock feature for hands-free insulation testing.

Insulation Resistance Tester (Cat. No. ET600)

- Test insulation resistance up to 4000M at 125V, 250V, 500V, and 1000V DC
- Measures up to 1000V AC/DC, low resistance, and continuity
- Automatic ranging True Root Mean Square (TRMS) technology for increased accuracy
- Test verification of conformity to EN61557-1, -2, -4
 - CAT IV 600V and CAT III 1000V safety rating
- Test and Lock buttons for simple insulation testing
- Warning alarm and high voltage icon for detection of voltage
- Backlit display with bar graph, APO, High Voltage, Max/Min, and Hold icons
- Built-in stand and optional magnetic holder for hands free operation
- Includes both Right Angle Test Leads and Heavy-Duty Alligator Clip Test Leads
- Low battery indicator with easily replaceable battery and fuse

A resistance tester is essential for professionals to verify that electrical insulation is intact, or if an electrical system is exhibiting leakage current that needs maintenance, says Sabrina Kalsi, product manager at Klein Tools. Our Insulation Resistance Tester is built for testing at installation, during troubleshooting, or at annual maintenance

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

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Motoring ahead with the compact Megger MTR105 Motor Tester

The **NEW MTR105** leads the way in hand-held motor test instruments. The needs of customers have been met with the **MTR105** in that it will provide multiple tests at an affordable price that allows better servicing of motors/generators.

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- Motor rotation tester
- LCR meter
- Low resistance ohmmeter
- Temperature measurement

Some of the key features of the MTR105 include:

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- Guard terminal
- Full graphic color display
- Operating altitude up to 3000m
- Temperature compensation for Insulation Resistance
- Internal record storage and download to USB



Stay ahead with the MTR105!



For your **FREE** copy of Megger's Motor Testing Guide, Visit www.megger.com/getbook. Reference Code: MTR_EPS_JAN

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