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Protect Yourself

Miller Safety Consultants —

A Leader in Arc Flash Protection

Vince Miller started Miller Safety Consultants, a veteran owned business in 1999. The goal of the business was to provide cost effective safety consulting, employee training such as: confined space entry, fall protection, electrical safety and provide sales of electrical shock and flash protective equipment and fall protection equipment to businesses in the Washington DC area.

Reliance Industries provided fall protection products and much of the sales and training was on behalf of the supplier. In 2000, the owner decided to retire from his business, and Vince decided to discontinue the fall protection line of his business and concentrate more in the electrical training and products.

Vince had been a distributor for Certified Insulated Products (CIP), a manufacturer of electrical insulated tools and electrical arc flash clothing manufactured by Otex in Rochester, New York. As a distributor, Vince provided sales through his internet website and much through relationships with electrical contractors. His training was a classroom environment and was provided directly to customers but he also taught as a sub-contractor for other safety consulting companies and the

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

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

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

The majority of his sales of products are from the web-based store. Cementex is

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

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

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

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

For more information, visit
Miller Safety Consultants at:
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Inner Layer: Westex Ultrasoft

Color: Safety Orange

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Generator InterLock Technologies, LLC

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

The initial inspiration for the product came from a persistent friend of an electrician working for Master Electrical Services. As electrical contractors, they had seen various unsafe and illegal methods that people had used to try to power their houses with their portable generators.

MAIN

SECTION AND ADDRESS OF THE PARTY OF TH

The electrician set out to develop a product that would meet National Electrical Code requirements and at the same time be cost effective and convenient for the homeowner. From that original inspiration came a new company: Generator Interlock Technologies or GIT.

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

The company started filling orders in early 2005, using Master Electrical Services as its basis for customer awareness. Starting with a few kits that fit the most recent Square-D and Cutler Hammer panels, the offerings grew to over 30 different models in less than one year. Generator Interlock Technologies now has kits for panels from 30 years ago to the most current and they continue to

add new kits to meet their customer's needs. While contractors in Florida and the North East are the biggest customers, Interlock Kits have been sent throughout the United States and parts of Canada. Whether the power loss is due to costal hurricanes or from crippling ice storms in the northern, GIT has a kit that will allow customers to keep the power on in their homes.

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

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

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

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

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

INTERLOCKKIT

A Generator InterLock Technologies Product







Generator InterLock Technologies

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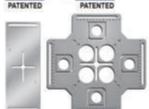
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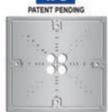




IP5







IP8

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IP13a-13h







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IP21a QwikBlock PATENT **Box Support**





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(A)

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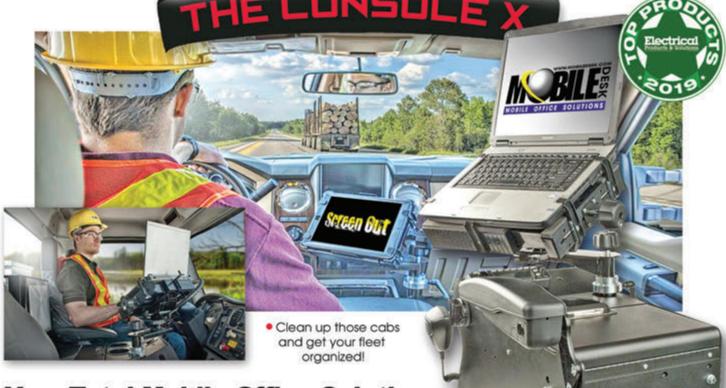


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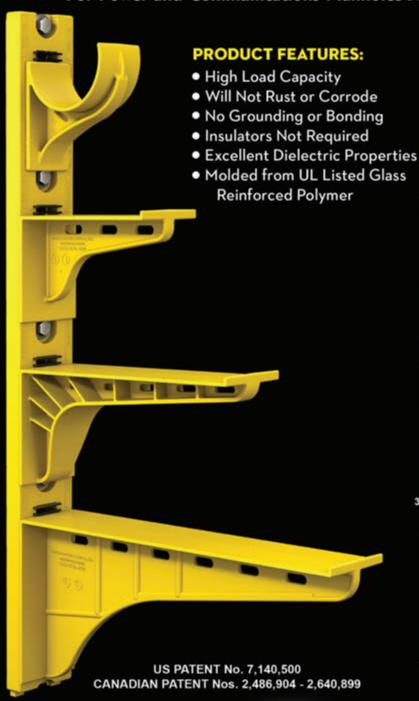
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HDL Arm Lock shown with RA04 Arm and CR36-B Stanchion



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



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





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AEMC[®] Instruments

emc® Instruments with U.S. operations in Dover, NH and Foxborough, MA began operations here in 1976 in downtown Boston. As a legal entity, AEMC is Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments and is affiliated with Chauvin Arnoux SA in France founded in 1893 and today is still a test and measurement instrument industry leader. Our products are backed by over 125 years of experience in test and measurement equipment, and encompass the latest international standards for quality and safety.

AEMC manufactures professional electrical test and measurement instruments for the industrial, commercial and utility marketplace. Product reliability, excellent customer support and expert technical assistance are our top priority.

AEMC® is the worldwide industry leading manufacturer of current measurement probes and is an industry leader in ground resistance testers, insulation resistance testers and power quality, and power energy meters and loggers. Our full product line also includes clamp-on meters, ratiometers, power meters, harmonic power meters, data loggers, thermal imagers, lightmeters, oscilloscopes, micro-ohmmeters and numerous other electrical test tools.

Our Megohmmeter line finds its roots in the early 1900s when Chauvin Arnoux introduced it's first model made from a galvanometer and a decade resistance box combined with a DC power source. Today, AEMC's megohmmeters are digital and incorporate many intelligent features. Timers, alarms and variable test voltages are standard features. AEMC has intro-

duced a unique line of professional 1000, 5000, 10,000, and 15,000 volt megohmmeters with added features, such as: data storage; automated tests and results (internal calculations of DAR, PI, DD and other factors); PC Control; and report compliant software.

Our Ground Tester line finds its roots in the early 1930s. A null balance galvanometer, a decade resistance box and a DC power source combined to make one of the first ground testers on the market. Over 20 years ago, AEMC revolutionized the ground testing market by offering clampon ground resistance testers, eliminating the need to disconnect the system to test it and eliminating the need for auxiliary rods to do the test. Several generations of improvements and additional features has strengthened AEMC's position as the industry standard and leader in clamp-on ground resistance testers.

We again led the way in fall-of-potential ground testing with the introduction of an automatic tester in 2006 that automatically locked onto the optimum frequency to test at and calculated all test results for soil resistivity, ground resistance earth coupling and bond resistance, as well as, stored the test data and generated computer reports including fall-of-potential plots. Our latest introduction, a tower test system, again is an innovative design providing the ability to test tower grounding systems with out de-energizing them or removing the overhead ground conductor, saving considerable time and money and improving operator safety.

AEMC's line of current probes has long been the standard for Power Quality analy-

sis with the world leaders in power quality instruments standardizing on these probes for their current measurement source. We also manufacture and sell a wide variety of Power and Power Quality measuring instruments ranging from clamp-on meters to single and three-phase power quality analyzers and digital power meters.

AEMC's DataView® software designed to configure instruments, run tests, download and store results and generate final reports was added to the product offering in late 1990s. Today DataView® is compatible with our Megohmmeters, Ground Resistance Testers, Micro-Ohmmeters, Power Quality Analyzers, Power and Engery Loggers, Data Loggers and Multi-meters, thus offering the user a standard for interface and control to all it's products eliminating the need to learn new software every time. Additionally, tablet and Smartphone Apps based on the Android platform are now available free of charge for our power, ground and clamp-on products.

In addition to its product offering AEMC offers a one day accredited course in ground resistance testing. The Ground Resistance Testing seminar is designed to give the attendee all the information needed to understand proper sizing and testing of grounding systems. Through a combination of classroom instruction and handson demonstrations, they will learn the various types of ground resistance tests, the proper application for each test and how to correctly operate the equipment used in conducting these tests. In addition, the student will have all the information to conduct ground resistance testing correctly and efficiently, saving them substantial time and money in the future. Classes on Power Quality were added in 2016.

Sales and marketing are located in Foxborough, MA while production, product service and NIST calibration are located in Dover, NH. AEMC® products can be purchased through a worldwide network of distributors who can be found on our website at www.aemc.com. We also offer custom products on an OEM basis.

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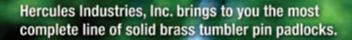


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Brandon Industries has been at the forefront of enhancing the face of America's neighborhoods, while retaining their heritage for over 33 years. Our company is headquartered in McKinney, one of the largest areas with historic homes in Texas. With growing demand, we have expanded our offices and production units. Brandon Industries has satisfied customers across the board, in municipalities, residential, and business developments all over the United States.

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LED is one of the often misunderstood components of streetscaping;

requiring a thoughtful approach rather than just replacement of fixtures. In outdoor public spaces just retrofitting HID lamps with LED often leads to over lighting. Backlight, up light and glare should be taken into consideration to avoid wastage of light and unwanted glare for drivers as well as pedestrians.

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Not all LEDs are made the same. Low power consumption, higher lumen output and high CRI are the basic requirements. Cheap inferior products are created by cutting corners using low quality materials, poor manufacturing methods, and lower rated components. At Brandon Industries, we stand by our quality.

Opportunities

We understand that as a landscape architect you have several challenges. While designing a private place it could be:

- Designing appropriate lighting for long and winding driveways, that are difficult to navigate once the sun goes down
- Creating small spaces that are private yet tasteful

While landscaping public spaces like parks, have a different set of challenges:

- The need for well lighted areas that make people feel secure
- An area which is pleasing to the eye and can be used by people of all ages
- Clean and hygienic

In addition to luminaires and a variety of lamp posts, bases & post tops we also have LED bollards that keep pedestrians safe, a wide range of comfortable park benches to enjoy leisure and trash cans to keep the environment tidy.

We make it easy for you, with all your streetscaping project needs under one roof. Eliminating the inconvenience of you having to reach out to multiple vendors, and waste time and effort in the back and forth communication.

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Talk to one of our expert sales representatives if you have a question, want a custom order or want a quote. Our lead times are typically two weeks- as fast as you'll find in the industry.

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Your neighborhood or downtown district deserves defined character – our distinct and made to last pedestrian scaled lighting solutions deliver an experience beyond your expectations.



Megger

been synonymous with quality and reliability in portable electrical test equipment. But where did the famous Megger name, a guarded trademark of Megger Group Limited, come from?

Back in 1888, electric lighting was growing in popularity. Sidney Evershed was working for Goolden & Trotter, a company with a department that specialized in domestic installations. To verify the safety of those installations, a method of testing insulation was needed. At that time, insulation resistance could only be measured in a laboratory, and the measurements were carried out at low voltages. typically around 2 V.

Evershed knew from research that testing at such low voltages gave unsatisfactory results, and to ensure the safety of an installation, it was essential to test the insulation at its working voltage or higher. He also knew that the laboratory techniques for measuring insulation resistance were unsuitable for use on site.

His response was to develop the first direct-reading ohmmeter, which comprised a small permanent magnet suspended at the center of, and controlled by two coils at right angles to each other. One coil was connected directly to the voltage source energizing the ohmmeter; the other was connected to the same voltage source via the insulation under test. This meant that the results obtained were independent of the voltage.

Evershed energized his ohmmeter with a hand-cranked generator, similar to the type in use at the time for ringing telephones. The instrument proved so successful that Evershed patented it, and Goolden & Trotter started to manufacture and market it in 1889.

In 1895, Sidney Evershed and Ernest Vignoles, another Goolden & Trotter director, purchased the company's instrument department and set it up as Evershed

& Vignoles Limited. The insulation testers made by them were given the name Megger. On May 25, 1903, the company registered the word Megger as trademark number 254820 in the UK. It has since been registered in almost every country.

The exact date the word Megger was first used is not known, but it is believed Vignoles devised it. Some sources suggest that it is a contraction of the words MEGohm and metER, with the addition of a



James G. Biddle



Ernest Vignoles



Checking DC motor armatures with a Megger Insulation tester—1930's style!

G, while others suggest that the original words were MEGohm and testER. Either way, the result is one of the best-known and respected trademarks in the electrical industry worldwide.

On Washington's birthday in 1895, while Evershed and Vignoles was being set up in England, James G. Biddle started his own business in Philadelphia. He acted as a manufacturers agent, arranging to import and sell scientific and electrical equipment made by overseas manufacturers.

In 1910, Dr. Rowland, Electrical Department head at Philadelphia's Drexel Institute told Biddle about a device for measuring insulation resistance that was manufactured in England by Evershed & Vignoles, and that this company was, with the aid of the British Consul in Philadelphia, looking for US representation.

Biddle traveled to England and, with a handshake, concluded a deal with Evershed & Vignoles, which made his com-

pany the sole distributor in the US for all Evershed & Vignoles test equipment, which included Megger insulation testers, earth testers and Ducter low-resistance ohmmeters.

Initially, Biddle ordered five Megger insulation testers, which he sent out on consignment to his close engineering acquaintances and public utility companies. Four out of five recipients decided to buy the instrument they had been sent. The success of the products helped Biddle to expand his operations.

In 1936, the business was incorporated as the James G. Biddle Company.

Biddle retired in 1940, and in 1945 was appointed Chairman of the Board. During World War II, because of the difficulty of obtaining equipment from England, Biddle started its own manufacturing operation for Megger insulation testers in the US.

After several ownership changes, Evershed and Vignoles joined forces with AVO Limited, the company that developed the world's first multimeter, to form Megger Instruments. In 1991, Biddle and Megger, along with Multi-Amp, came together to form the organization then known as AVO Megger Instruments.

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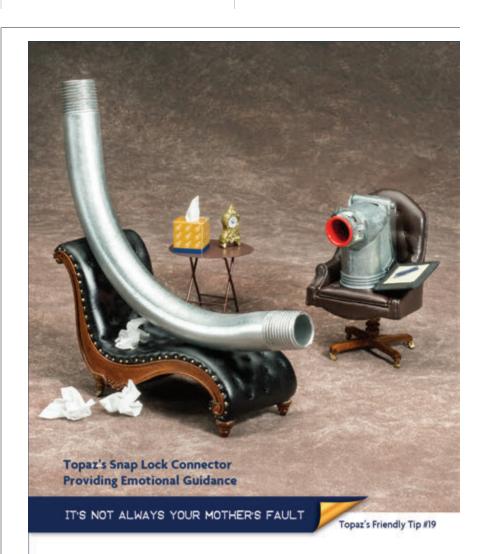
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With 4", 6" and 8" apertures, Sapphire II features the latest CREE® COB technology for improved beam control, including spot, narrow flood and flood. The adjustable mechanism tilts 30° with 180° rotation (4" model) and 35° with 360° degree rotation (6" and 8" models). Lumen packages are offered from 900Im to 3500Im with color temperatures in 2700K, 3000K, 3500K and 4000K at 90+ CRI. The Sapphire II Adjustable reflector assembly includes the LED

optical package with heat sink and easily wires to dedicated housings manufactured by Nora. All models are cULus listed for damp locations and ENERGY STAR certified. Nora Lighting has served the lighting industry for more than 30 years and is a recognized leader in the development and introduction of LED products. Nora offers one of the industry's most comprehensive lines of LED luminaires, including: commercial, architectural and residential downlights; track and rail lighting; panels and troffers; MLS (multi-lighting systems); linear and under cabinet lighting; RLM, pendants and cylinders; tape lights; step lights; and emergency / exit signs.

For more information, visit www.noralighting.com





Russelectric, A Siemens Business, Offers Customized Switchgear Simulators

Russelectric, A Siemens Business, a leading manufacturer of power control systems and automatic transfer switches, announces the availability of Switchgear Simulators designed to train personnel on automatic and manual operation of Russelectric switchgear.

Customized to mimic the operation of the customer's Russelectric® switchgear/system, Russelectric simulators are ideal for familiarizing workers on the system and its operation and for accurately diagnosing a wide range of utility,



generator, and breaker problems. The simulators can also be used to assess the impact of changes to PLC setpoints such as kW values and time delays. Using the simulators enables operators to evaluate an almost limitless number of responses to failure scenarios and use the information to develop and validate site operating and emergency procedures.

Russelectric Switchgear Simulators are available in two versions. The Russelectric Training Simulator allows personnel to train on the automatic operation of Russelectric Switchgear, while the Russelectric Advanced Training Simulator allows personnel to train on both manual and automatic operations. With the addition of hard-wired controls and interlock circuits, the simulator PLC accurately mimics full manual controls, enabling personnel to train in the comfort and safety of an office environment.

For more information, visit www.russelectric.com





Fully Customizable ACS/Uni-Fab™ Pre-Wired Load Centers Save Time, Labor, and Storage

Simplify the materials process and reduce onsite labor in several ways

ACS/Uni-FabTM, part of Atkore International, a leading manufacturer of electrical products, has introduced fully engineered pre-wired load centers to increase efficiencies of electrical wiring projects. All cables come coiled and zip-tied to the panel bracket (optional), leaving the contractor with a highly expedited installation—the crew simply routes the branch wiring to its destination.

ACS/Uni-Fab Pre-Wired Load Centers also simplify the materials process and reduce onsite labor in several ways:

FULLY CUSTOMIZABLE

Pre-wired load centers are designed for each specific project. The ACS/Uni-Fab team works directly with the electrical contractor on exact requirements for the electrical system related to branch length, outlets, switching, etc. The load centers are built to project specifications and panel schedule, and conductors are labeled with circuit numbers for easy identification during installation.

REDUCED LABOR & MATERIAL

Load Centers are pre-wired from the circuit breaker out, with the homeruns for each circuit precut to length and terminated in the panel, reducing installation time and labor. Precut cables also eliminate the wait for components from various manufacturers, and reduce the number of large coils and reels (typically 250 ft. and 1,000 ft. respectively) that need to be transported from area to area.

SHIPPED TO SCHEDULE

The Load Centers are manufactured to adhere to National Electrical Code (NEC) and UL® standards (UL File No. E95149) in a controlled environment, with oversight by QC producers to ensure product quality. The load centers are available with metallic or non-metallic cable, and can be shipped in "stages" so that all material does not have to be stored on the jobsite at once, risking theft or damage.

ACS/Uni-Fab Pre-Wired Load Centers are especially useful for contractors and building owners looking for ways to speed up installation time on large-scale, repetitive jobs such as hotels, condos, healthcare facilities, and college dormitories.

For more information, visit www.acsunifab.com



Cementex Announces Insulating Rubber Apron Now Available with New Belt Strap

Ideal for technicians working on or around battery storage systems

Cementex, the safety tool specialists, announces the availability of its insulating rubber apron, now available with a new belt strap and is ideal for working on or around battery storage systems. The apron is a good choice for technicians who have to reach over energized conductors to perform standard maintenance. The new belt strap allows for easy cinching at the waist to help decrease the risk of the apron dragging across batteries.

With a base material of Cementex Class 0 Roll Blanket, the apron is composed of high-strength fabric reinforced Type II rubber. Highly puncture- and tear-resistant, the Cementex insulating rubber apron is also flame-resistant (self-extinguishing) and oil- and ozone-resistant.

Designed, manufactured, and tested in the USA, the apron meets strict ASTM F2320 specifications.

For more information, visit www.cementexusa.com





Klein Tools'® Scout® 3 Pro Tester Starter Kit is Next Generation of VDV Testing

Klein Tools, for professionals since 1857,introduces the Scout® Pro 3 Tester Starter Kit, a versatile voice/data/video cable tester that locates and tests coax, data and telephone cables in order to verify accurate cable installations each time.

Scout® Pro 3 Tester Starter Kit (Cat. No. VDV501-851)

- Test voice (RJ11/12), data (RJ45) and video (coax F-connector) cables
- Measure cable length (up to 2,000 feet)
- Backlit LCD screen displays cable length, wiremap, cable ID and test results
- Self-Storing Test+Map™ Remote



- Test for Open, Short, Miswire or Split-Pair faults
- Tone cables, wire pairs and individual conductor wires (requires analog probe Cat. No. VDV500-123; sold separately)
- Hub blink mode to identify port location on a hub or a switch
- LanMap™ and CoaxMap™ Location Remotes (5 each) to map and ID multiple cable runs in a single step
- Include voltage warning, shield detection, power-off and low battery indicator

"Klein Tools' new Scout Pro 3 Tester Starter Kit is the next-generation tester, improved to make it even easier for professionals to test VDV cables," said Karen Alpan, product manager at Klein Tools. "We took user feedback into account when designing this kit, and gave it a larger backlit display and a simplified, intuitive user interface. Combined with the improved durability, customers will find this perfect for testing VDV cables."

For more information, visit www.kleintools.com

DEWALT® Debuts Two New Charging Solutions

Designed to increase productivity and minimize downtime

DEWALT announces the 12 Amp Fast Charger (DCB1112) and 6 Amp Charger (DCB1106) for efficient charging. For use in tough jobsite conditions, these chargers allow professionals to quickly charge their DEWALT batteries and get back to work.

The 12 Amp Fast Charger has the highest charge rate supporting the DEWALT 20V MAX* and FLEXVOLT® lithium ion battery systems, charging a DEWALT FLEXVOLT® Battery (DCB609) to 80% capacity in under 45 minutes (battery sold separately). The 12 Amp Fast Charger comes with Stage 1 and Stage 2 LED indicators which communicate more to the user about the state of charge of their batteries than DEWALT chargers without these indicators. The Stage 1 LED indicator blinks until the battery is approximately 80% charged, at which point it goes to solid. Once the Stage 1 LED indicator is solid green, the Stage 2 LED indicator starts blinking until the battery is fully charged. The battery is fully charged when both lights are solidly illuminated. This



prevents the user from having to remove the battery from the charger to check the state of charge. In addition, the 12 Amp Fast Charger features fan-assisted cooling, through-hole mounts, a latch for transporting the charger with a battery installed, and double insulation that meets UL Compliance.

The 6 Amp Charger offers versatility for a wide variety of charging needs and charges a DEWALT 5.0Ah Battery (DCB205) to 80% capacity in under 45 minutes (battery sold separately). Like the 12 Amp Fast Charger, the 6 Amp Charger also features the Stage 1 & Stage 2 LED format, through-hole mounts, secure latching, double insulation and is compatible with batteries in the DEWALT 20V MAX* and FLEXVOLT® systems. Unlike the 12 Amp Fast Charger, however, the 6 Amp Charger is also compatible with batteries in the DEWALT 12V MAX* system.

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

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

For more information, visit www.dewalt.com



WAGO Introduces New Compact Power-Over-Ethernet Switch

WAGO's new compact Power-over-Ethernet (PoE) expands its line of industrial grade Ethernet switches. Just two inches wide and four inches tall, the 852-1411/000-001 PoE switch is ideal for all applications with limited space.

The wide voltage input of 24 VDC to 57 VDC, makes the 852-1411/000-001 switch a fantastic option for all PoE applications. The switch supports both PoE operation modes A and B, with all of the ports supporting 10/100/1000 Mbits/s.

This new ECO (economy) PoE+ switch is unmanaged, supplies 30 watts of power per PoE port and has an operating temperature of $-10\,^{\circ}$ C to $+60\,^{\circ}$ C. It eliminates the need to run both an Ethernet cable and power cables to end devices, ultimately reducing cost.

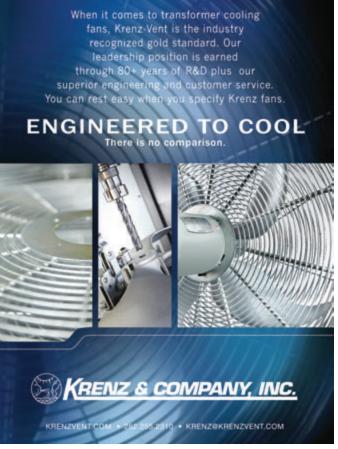
For more information, visit www.wago.com



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