



# Electric Energy T&D

## MAGAZINE

JULY-AUGUST 2006 Issue 5 • Volume 10

PERMIT # 23  
PLATTSBURGH, NY  
US POSTAGE PAID  
STANDARD  
PRESORTED

### In this Issue

I Have Seen the Future...  
and We're Not in It

**Plus**  
2007  
Suppliers & Buyers  
Guide Issue

**InfraCAM™**

LOW COST  
&

EASY TO USE

Now with full  
Radiometric Post  
Processing Capabilities!

Affordable enough to equip your inspection crews!



**NEW!**  
**ThermaCAM® P640**  
HIGH DEFINITION  
Infrared Camera

**FLIR™**  
The Global Leader in Infrared Cameras

US: 1 800 464 6372  
Canada: 1 800 613 0507

See our ad inside!

## **Electric | Gas | Water**

*Information collection, analysis and application*



*You knew there had to be a better way  
to build utility software solutions.  
Congratulations on finding it.*

Your business objectives are clear. You understand the needs of your customers. And you have a vision for an integrated solution that is powerful, easy to use and easy to maintain. But how do you get there? We're Itron. And we provide the industry's leading portfolio of utility software tools for critical business needs such as meter data collection, enterprise meter data management, forecasting, demand response, revenue protection, complex billing, distribution design and asset analysis, and much more. Put it all together and you now have the timely knowledge to make smart business decisions, lower your costs, and keep your customers happy. That's certainly worth a pat on the back.

Have you looked at all the ways Itron can help your business?



# **Itron**

*Knowledge to Shape Your Future*

**1.800.635.5461 ext. 3400**

**[www.itron.com/it](http://www.itron.com/it)**

# go ahead. take a vacation from rising peak demand.

Imagine reducing your peak. You can do it with the touch of a button.



Comverge customers across the continent see those results throughout their peak seasons - some of them without even owning the program - through our innovative Demand Response solutions. With over six million devices installed, Comverge technology provides over six gigawatts of peak capacity, added reliability, and peace of mind to over 500 of North America's top utilities.

So relax, take the camera this year, not your laptop. Give us a call at 888.525.5565.



**comverge**

The Power in Power Technology.™

888.525.5565 | [www.comverge.com](http://www.comverge.com)

**Publisher:**  
Steven Desrochers: steven@electricenergyonline.com

**Editor:**  
Gordon McCormick: gordon@jaguar-media.com

**Contributing Editors:**  
Mike Marullo: mam@electricenergyonline.com

**Account Executives:**  
Jimmy Desjardins: jimmy@electricenergyonline.com  
John Diachidos: john@electricenergyonline.com  
Steven Desrochers: steven@electricenergyonline.com

**Production Assistant:**  
Danielle Bernier: danielle@jaguar-media.com

**Circulation Manager:**  
Janet Guay: janet@jaguar-media.com

**Art Designers:**  
Frederic Allard: fred@jaguar-media.com  
Sebastien Knap: sebastien@jaguar-media.com  
Anick Langlois: alanglois@jaguar-media.com

**(MIS) Management Information System:**  
Frederic Allard: fred@jaguar-media.com

**Electric Energy Magazine is published  
6 times a year by: Jaguar Media Inc.**

1160 Levis, Suite 100, Terrebonne, QC Canada J6W 5S6  
Tel.: (888) 332-3749 • Fax: (888) 243-4562  
E-mail: jaguar@jaguar-media.com  
Web: www.electricenergyonline.com

**Electric Energy T&D Magazine** serves the fields of electric utilities, investor owned, rural and other electric cooperatives, municipal electric utilities, independent power producers, electric contractors, wholesalers and distributors of electric utility equipment, manufacturers, major power consuming industries, consulting engineers, state and federal regulatory agencies and commissions, industry associations, communication companies, oil & gas companies, universities and libraries.

Post Publication mail agreement #40010982  
Account #1899244

"CCAB/BPA WORLDWIDE MEMBERSHIP  
APPLIED FOR DECEMBER 2005"

**Industry News** 4

**Suppliers Index** 47  
Companies listed alphabetically with complete addresses, phone and fax numbers, e-mail, web site and contact names.

**Products & Services** 61  
This section lists all the companies under the specific product or service that they supply to the industry.

**Product Showcase** 139  
Read about new products available to the industry.

**Advertisers Index** 144  
This index is a guide to locate specific display advertisers throughout the magazine.

COVER PAGE PHOTO: www.photos.com

# **Electric Energy T&D** MAGAZINE

## IN THIS ISSUE

Page 16



Page 40

### 16 .....UTILITY HORIZONS™:

#### I HAVE SEEN THE FUTURE... AND WE'RE NOT IN IT.

Like many of the readers of this publication – and our industry in general – I'm part of that huge chunk of the population commonly known as "Baby Boomers" (or simply "Boomers"). I'm proud of what my generation has accomplished. The many things we've created over the past half-century...

### 20 .....HOW PROJECT MANAGEMENT WILL RADICALLY IMPROVE UTILITY VEGETATION MANAGEMENT PERFORMANCE

Utility Executives Must Recognize Traditional Utility Vegetation Management Obsolescence ...

### 26 .....UNDERVOLTAGE LOAD SHEDDING – PART 2

In the previous issue of EE T&D part 1 of the article on Undervoltage Load Shedding discussed the investigations of recent blackouts ...

### 34 .....USABILITY IN UTILITY CUSTOMER INFORMATION SYSTEMS: THE IMPORTANCE OF THE USER EXPERIENCE

Usability is a frequent buzz word in the utility software industry. Underlying the buzz is the reality that delivering on return on investment (ROI) promises is directly linked to the customer information system's (CIS) usability factor.

### 40 .....A NATIONAL MODEL FOR SITING TRANSMISSION LINES

There is a shortage of high-voltage transmission lines in the United States, and demand is expected to grow at least 20 percent in the next decade. Yet selection of transmission line routes is a growing source of public controversy and regulatory scrutiny throughout the world.



**Electric Energy T&D**  
is proud to be a member  
of these associations



IT'S MORE THAN A SYMBOL. IT'S A PROMISE.



For over 30 years, Bulwark has harnessed science and technology for the safety of workers everywhere. It's innovation driven by commitment. By passion. And by the knowledge that as the industry leader, we owe it to all those who place their lives on the line every time they suit up. To put the promise of the patch on your side, visit us at [www.bulwark.com](http://www.bulwark.com) or call us 800-223-3372.

**Bulwark**  
Protective Apparel

## United Illuminating: An Amazing Change - Actually 31,000 Plus

In years past, just the thought of converting or eliminating customer rates would cause most utility metering and billing teams to break out in a cold sweat and stress levels would soar. Historically, the scope of the effort required was daunting.

The possibility of eliminating and consolidating tens of thousands of customers on a new time of use rate, in one day, would not have been considered. It would have been pulled off the table as an unrealistic and unreachable goal.

Why? Anyone close to the project would quickly tell you that it required months of programming for the CIS and billing engines to be perfectly aligned. Plus there was the purchase and coordinated year-long-or-more installation of meters. As to cost, the financial impact on most utilities would have run into the millions of dollars. But with the capabilities and support of the Cellnet AMI system deployed at United Illuminating, this was no longer the case.

The major technology projects completed over the past several years at United Illuminating — Cellnet AMI, SAP CIS, and SPL Field Automation, to name a few — have provided UI the ability to implement system changes quickly and easily and in this case, a major rate change in a very short time. They have also positioned United Illuminating to more cost-effectively serve its customers in an environment of rapidly increasing energy supply costs.

That statement was proven out at United Illuminating on March 4, 2006, when a one-day rate changeover that reached the full width of the service territory and involved more than 31,000 customers, was successfully completed.

"We demonstrated this ability in December of 2003 in a much smaller way with the elimination of Rate RHP (Residential Heat Pump) for approximately 1,000 customers using the SAP technology and no meter change," said Joe Thomas, United Illuminating associate vice president and general manager, Client Fulfillment. "And now, taking full advantage of the technology initiatives we have in place, we're able to meet the new challenges of deregulation and better serve our customers. That's a winning combination."

*"And now, taking full advantage of the technology initiatives we have in place, we're able to meet the new challenges of deregulation and better serve our customers. That's a winning combination."*

The January 27, 2006, Connecticut DPUC rate case decision authorized UI to eliminate two rates: Rate A (Residential Heating and Off-Peak) and Rate TE (General Service Heating). With electric supply costs steadily increasing, elimination of these rates and converting the customers from their current Time of Use (TOU) rate to a TOU rate that has favorable off-peak times and is therefore a more economical TOU rate, would benefit the vast majority of United Illuminating's customers served under the old rates.

The needed approval was granted because of intensive rate case work and extensive data gathering and analysis by United Illuminating's Regulatory and Pricing group and the Data Operations group of Revenue Meter Systems (RMS). The rate case team presented a compelling case to the Connecticut DPUC, who saw the advantage for customers and gave the green light to the rate change.

Once Connecticut DPUC approval was obtained, an aggressive date was set to convert the targeted customers. The plan was anything but simple: Take the 31,176 Rate A users and 229 Rate TE customers and shift them to a different TOU rate in a 24-hour period. No exceptions, no oversights, no dropping of accounts: One day to make it all happen in a seamless, transparent and efficient manner.

The only reason it was even possible was that with the Cellnet AMI system, an actual meter change was not required which eliminated site visits and associated metering work and within SAP, the rates could be changed easier than with the previous mainframe style CIS system. This project was truly a team effort. We needed all team members to perform to a very high level in order to prevent a major problem and the cascading headaches that would follow.

### Figure One:

#### *Timeline and Steps Required For the United Illuminating Rate Changeover:*

January 27, 2006: Rate Case Approved  
February 2006

- IT and Billing immediately began reviewing SAP and how this initiative could be completed. IT quickly wrote and tested the batch programs that would change the rates.
- Client field representatives reviewed the rate changes. All Rate A users would be switched to Rate RT (Residential Time-of-Use), but each Rate TE user had to be individually evaluated for changeover and assigned to either General Service or General Service Time of Use.
- The Data Operations and Data Analysis groups of Revenue Meter Systems (RMS) determined which meters needed some activity to prepare for the conversion, possibly an exchange, network fix-up or monitoring.
- Revenue Integrity supported the meters where UI access was difficult.
- Meter Engineering ensured meter programs and inventory were correct and ready for the conversion.
- Standard Field met the challenge of field work, meter reading and back office processing of all outstanding issues.
- Billing, Cellnet staff and IT worked diligently on ensuring the rate changes in SAP and the Cellnet system were prepared, ready and that everything would go well.

All of these activities were happening at the same time in parallel and needed to be fully integrated for the changeover to be successful. When you look at the scope of the undertaking and the resulting preparation involved, you can



On Site. On Time. Portable DGA.

## TRANSPORT X

- ◀ Portable DGA for Transformers, Tap-changers and Circuit Breakers
- ◀ 7 Gases & Moisture
- ◀ Easy Operation
- ◀ Rugged & Light
- ◀ Accurate & Reliable
- ◀ No Consumables

intelligent power



Kelman North America  
4147 N. Ravenswood Ave.  
Chicago IL 60613  
USA

Tel: (773) 944 0693  
Fax: (773) 944 0690  
Email: [mail@kelman-northamerica.com](mailto:mail@kelman-northamerica.com)  
Web: [www.kelman-northamerica.com](http://www.kelman-northamerica.com)



Kelman North America  
393 Aberdeen Boulevard  
Mississauga, Ontario L4R 5M9  
Canada

Tel: (705) 716 1870  
Fax: (705) 527 7554  
Email: [mail@kelman-northamerica.com](mailto:mail@kelman-northamerica.com)  
Web: [www.kelman-northamerica.com](http://www.kelman-northamerica.com)

appreciate the way we have transformed as a utility over the years through our use of new technology and streamlined business processes. In less than 30 days, all was ready. Out of 31,405 targeted meters, there were only three that needed to be manually read and only five needed to be exchanged on the conversion date.

On March 3, 2006 IT ran the programs to convert the rates in SAP and found only a few accounts that needed to be reviewed and/or fixed. That night, the file with all the rate changes was sent to Cellnet and the last stage of the process was in motion.

Cellnet began changing the switch over points for On-Peak and Off-Peak timing on all the meters Saturday morning. As planned, every Cellnet pole-top Micro-Cell Controller was updated by Saturday night. Sunday morning found UI's and Cellnet's team fixing the nineteen meters that did not immediately accept the change—19 out of 31,405. Clearly, this success story shows that United Illuminating is ready today for the changes that deregulation will continue to bring.

*For more information, contact Guy Cattaruzza, Director, Revenue Meter Systems*  
[guy.cattaruzza@uinet.com](mailto:guy.cattaruzza@uinet.com)

**Circle 161 on Reader Service Card**

## Infrared - The Leading Diagnostic Technology for the Electric Power Industry

Infrared thermography has become the core of utility predictive maintenance programs in the U.S. and around the world. For over thirty years, thousands of utilities have used infrared to avoid costly failures, improve service reliability, and prevent electrical fires. FLIR Systems, the global leader in infrared cameras, offers the world's most advanced infrared camera lines to support the condition monitoring infrastructure that keeps the electrical power grid up and running.

Implementing a predictive maintenance plan via infrared is the best way to increase system reliability by locating and correcting failing components before they cause interruptions in service. Infrared cameras allow an evaluation of a wide variety of plant and substation equipment, while capturing high-resolution thermal images for analyzing and reporting purposes.



FLIR's ThermoCAM® P65HS, the professional thermographer's choice, is the most highly refined inspection system available today. Many certified thermographers within the utility industry enjoy the advanced hardware, software, and add-on optics available. Working in concert with ThermoCAM? reporting and database software, the P65HS fully automates the process of collecting, reporting, and archiving infrared images and thermal data.

Another option for infrared scanning is the new InfraCAM?, which is a great and affordable way to equip substation crews and customer service inspection teams. The InfraCAM? is ultra-compact, easy-to-operate, and features a bright 3.5" LCD for viewing hot spots within electrical systems.

Whether inspecting indoor and outdoor components, substations, switchgear, transformers, or locating loose connections or load imbalances, infrared thermography has proven to be extremely beneficial by quickly finding problems, saving money, and delivering reliability. Infrared cameras provide maintenance personnel with accurate thermal information necessary to make critical decisions about equipment repair, replacement, and efficient plant operations.

*For more information, visit our web site at*  
[www.flirthermography.com](http://www.flirthermography.com).

**Circle 162 on Reader Service**

## High Voltage Inc. Introduces first Combination VLF AC Hipot/Cable Fault Locator

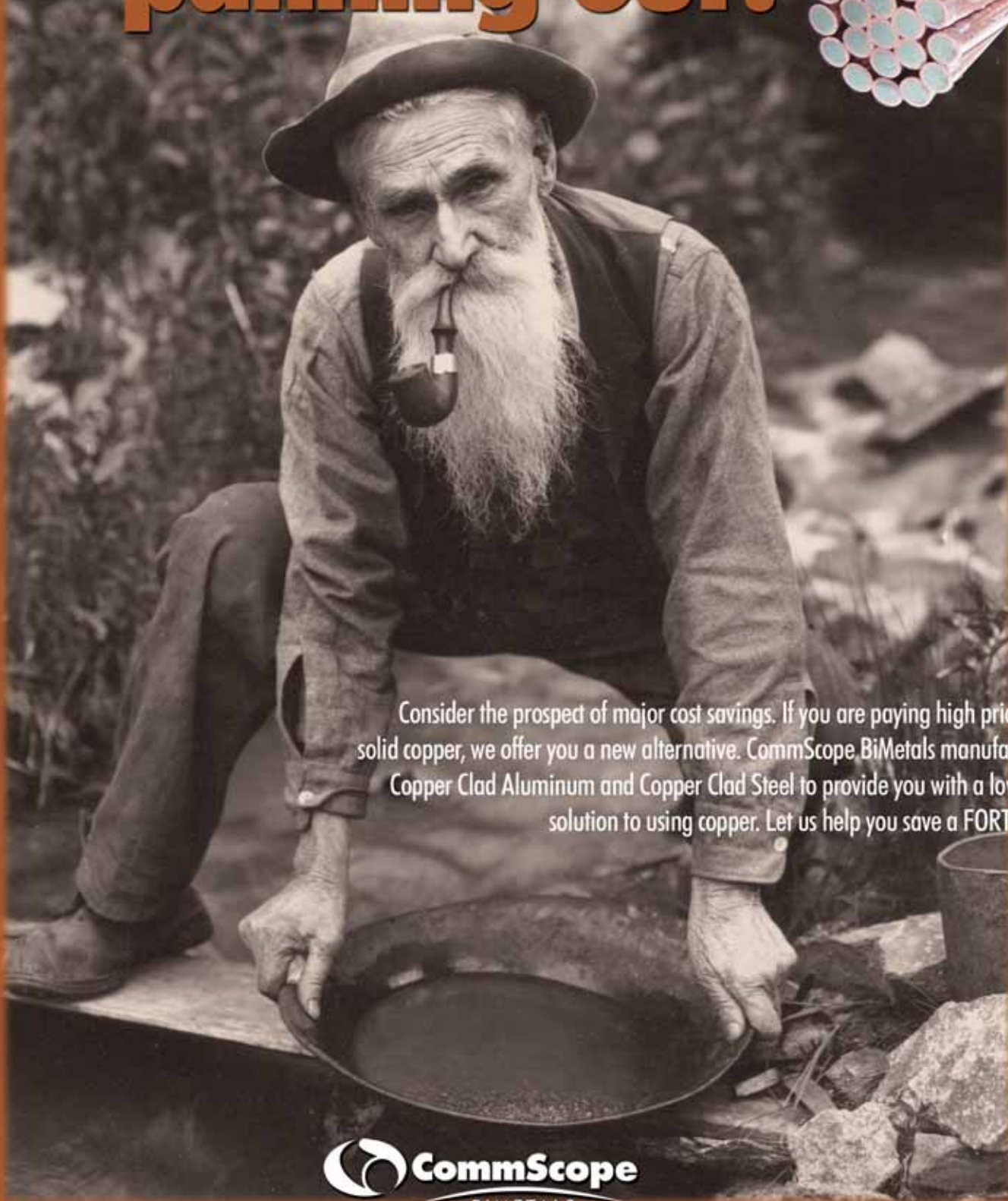
The recent new IEEE Standard 400.2 Guide for Field Testing of Shielded Power Cable systems will require industrials, contractors and power companies to use VLF AC hipots now instead of the old DC method of proof testing power cables. A wealth of scientific research worldwide has proven that DC testing over time is damaging to solid dielectric

cable and promotes cable insulation degradation. VLF AC Testing at .1 Hz is ideal for proof testing cable feeders, substation getaway runs, aerial insulated cable and URD cable runs. The VLF AC hipot test technique has also been found to be very effective for verifying workmanship of new splices and termination joints especially when done under emergency weather conditions trying to restore power to the customer. VLF Technology is rapidly being adopted by the industry and is a good method to find weak cables before they fail. The VT-30 offers users the ability to meet the new IEEE VLF testing method and can also be used to find faulted cables in a compact, portable one piece design configuration.

The new model VT-30 provides 0 to 30 kV AC peak Sinewave output at .1 Hz. It can hipot and proof test shielded power cables up to 1.0 microfarad load rating or approximately 1.5-2.0 miles of typical 15 kV class cable per the new IEEE Standard 400.2 for VLF testing of underground shielded power cables. It also



Is your current source for copper not  
**panning out?**



Consider the prospect of major cost savings. If you are paying high prices for solid copper, we offer you a new alternative. CommScope BiMetals manufactures Copper Clad Aluminum and Copper Clad Steel to provide you with a low-cost solution to using copper. Let us help you save a FORTUNE!



The New Alternative  
for BiMetallic Applications

Power Utility Theft Protection • Copper Clad Steel Tracer Wire • Grounding Protection

For more information, visit our website at [www.commscope.com](http://www.commscope.com) or call 704.883.8015 for further support.



**Trusted Worldwide for  
Quality Test Equipment**



**VLF Cable Testing**



**Portable Fault Locating**



**Easy URD Loop Restoration**

**1 (205) 788-2437**  
voncorp@voncorp.com  
www.voncorp.com

contains a Fault Finding Capacitor Discharge mode of 0 to 12 kV @ 650 joules with a strong Burner rated at 400 mA to reduce arc over voltage to less than 10kV.

An internal arc reflection filter is built in so the unit is Radar Ready with existing radars users already have in the field.

Because DC hipot testing is not recommended anymore for testing service aged solid dielectric cable, the VT-30 provides the best of both field applications: An AC Sinewave VLF test to perform a stress/proof test on critical cables, splices, and feeders and a Cable Fault Locator and Burner to find faults that may occur if and when cables fail.

**Circle 163 on Reader Service**

### **I.C.M.I. records vigorous growth in fiscal 2006, doubling sales.**

President Dirk Mooibroek explains the sales results: "ICMI Voltage Regulator control products are in their fifth year of production providing excellent performance and reliability records at over 400 Utilities Nationwide now using the UVR-1 and UVR-1 LTC controls. The popular UVR-1 "Menu System" enables customer to upgrade existing UVR-1 controls in the field and re-program field installed controls with ICMI's new technology via CD-ROM and Menu card, for enhanced and changing market demands."

Mooibroek further commented that a large number of competitive control products were recalled resulting in converting several customers to ICMI's UVR-1 controls. He reported that ICMI's introduction in 2005 of the USC-1, base technology Universal (SIMPLE) Regulator control, is gaining rapid acceptance with customers who do not require communications or data profiling.

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

**Circle 164 on Reader Service Card**

### **Interrogator™ 4210 Hand-Held Battery Analyzer Product Editorial:**

The Interrogator™ 4210 Hand-Held Battery Analyzer cuts the cost and risk of battery ownership by 20-40% by detecting low-performing batteries in a single test. This is made possible by the electrochemical measurements of CEL-Scan™ Technology. Only the Interrogator™ 4210 has it.

## **Industry News**



**CEL-Scan™**  
Technology (Chemical,  
Electrical, Layer Scan)  
is an advanced  
frequency response  
analysis that simulta-

neously measures the electrical and the chemical properties of a battery in terms of voltage, resistance/impedance, sulfation and dryout. Whereas electrical parameters alone serve as a "battery death monitor", electrochemical measurements provide advanced information about battery performance capacity. This saves service teams' time and money.

For example, when sulfation and/or dryout are the dominant degradation mechanisms for VRLA or Flooded lead-acid batteries, an Interrogator™ 4210 test can predict the outcome of a 3-hour load test in 30 seconds with better than 93% correlation.

Specific Gravity measurements are not required because the Interrogator™ 4210 measures the state of charge electronically and without the risk of acid contact.

By using the Interrogator™ 4210 in conjunction with a professional battery care and replacement program, managers spend the proper amount of money on testing and replacement batteries while reducing their reliability risk.

No other hand-held battery analyzer can do this.

With the Interrogator™ 4210, there is more battery diagnostic information which means better decisions for reduced costs, lower risks and greater business development.

The Interrogator™ 4210 measures lead-acid batteries as well as NiCad, Li-Ion and NiMH batteries.

WELSoft™ is the data management software companion for the Interrogator™ 4210 and provides semi-automated battery data storage, data analysis and report generation.


For more information, contact Phenix Technologies or World Energy Labs for a copy of the Interrogator™ product brief, technical data sheet and the Load Test Correlation Application Note.

[www.phenixtech.com](http://www.phenixtech.com) & [www.worldenergylabs.com](http://www.worldenergylabs.com)

**Circle 165 on Reader Service Card**

# ***FAST Powerline AMR***

Move more data, *faster*.



Read meters in  
4 - 6 Seconds  
Start-to-Finish!

- Pinpoint outages seconds after the first call
  - Verify restoration faster
- Find trouble spots with detailed outage and voltage data from every meter
- Improve billing flexibility, load research, load management verification using 15 minute load profile from every customer
- Perform remote disconnect/reconnect and get immediate verification

Power line communications made better by a communications company.



Minneapolis, MN  
cannontech.com  
800.827.7966



## ***+ Fast Demand Response***

Reach all of your direct load management receivers in seconds

- 900 MHz Paging
- VHF Paging
- Power Line Carrier

## ProSoft Technology Releases the New ProLinux 7000 Application Server with ECHO Historian

ProSoft Technology's new ProLinux 7000 Application Server (AppSrvCE) delivers communication protocols and a powerful embedded data historian, all together in one dynamic package.

The AppSrvCE is fully customizable and programmable (including 'C' programming), supporting multiple automation programming languages. The Application Server's high performance data historian is capable of logging up to 500 tags of real-time data at sub-second speeds.

Cost effective, quick and easy to implement

The AppSrvCE is ideal for users who require a high-level of customization/programming plus



real-time historical data such as: process optimization, compliance reporting (FDA, EPA, etc.), emissions monitoring, pharmaceutical manufacturing, sequence-of-event recording or remote applications like utility RTUs, compressor and facilities monitoring.

### Ideal for:

- Remote or mobile asset monitoring
- Sequence-of-event recording
- Electronic documentation and regulatory compliance applications
- Predictive maintenance, asset management, error analysis, and process optimization

### ProLinux 7000 benefits include:

- High-speed, real-time and/or historical data collection.
- Store and access data locally.
- Easily integrate into new or existing control systems.
- Log up to 500 tags of real-time data.
- More cost effective solution than multiple, single-use devices.
- All data is accessible using OSIsoft's PI server.
- CAM (Custom Application Module) option adds 5 serial ports.
- Remotely configurable/upgradeable via Ethernet.
- Easy-to-implement, off-the-shelf solution.
- Very small foot print.
- OPC HDA server can be added to allow open access to the historical data.

### Data Historian

The AppSrvCE can log up to 500 tags of real-time data at sub-second speed. As a standard feature all historical data is accessible using OSIsoft's PI product. Additionally, an OPC-HDA server can be added to allow open access to the historical data.

Aerotec specializes in providing rapid and effective airborne lidar surveys and digital imagery solutions for government and private industries. Aerotec's services include topographic and pathway mapping, utility route selection, volumetric determination, engineering data collection, infrastructure and asset inspection and documentation, and GIS population. Aerotec can supply essential engineering data better than any other LIDAR provider. We don't do your engineering - We just make it **A LOT** easier.



Sometimes,  
just looking the part  
isn't good enough



Sectionalizing enclosures may look pretty much the same at first glance. But underneath, there can be a whole lotta difference going on.

Brooks Meter Devices sectionalizing enclosures are not only RUS accepted but made with the quality and value you expect from every Brooks UPG product.

From aluminum models to the premium quality of galvanized steel, all units receive a five stage pre-treatment and 3 mil powder coat finish. All manufactured in our ISO 9001:2000 facilities. And designed and built to last.

So if rusted metal or cracked composite enclosures have left you hanging around a hotel

called "Heartbreak", you need a Brooks Meter Devices sectionalizing enclosure.

Anyway you look at it, it's one hunka hunka high-class metal.

Because when it comes to quality, Brooks Utility Products Group is The King.



**UTILITY PRODUCTS GROUP**

BROOKS SECURITY PRODUCTS

BROOKS EKSTROM

BROOKS METER DEVICES

**We Have Answers.™**

# Ethernet in Substations?

Talk to the IP experts  
about your industrial  
networking needs



»»» Fiber and copper  
connectivity

»»» Industrial-grade PoE

»»» Secure web  
management

»»» Fault tolerant  
configurations

»»» Temperature hardened

4.9 Million 6K Switch Configurations Available



510.438.9071  
www.GarrettCom.com

## The Growing ProLinX Family

The ProLinX 7000 Application Server joins ProSoft Technology's growing ProLinX family which includes the two-protocol, stand-alone, interface gateways, and the new wireless gateways.

## ProSoft Technology: Where Automation Connects

ProSoft Technology, Inc. specializes in the development of communication solutions compatible with the large automation supplier's controllers such as Rockwell Automation and Schneider Electric. The primary focus is to provide connectivity solutions that link dissimilar automation products. ProSoft Technology's offerings consist of four primary product families: Protocol and network connectivity modules known as inRAX for Rockwell Automation and ProTalk for Schneider Electric, stand-alone gateways, protocol converters, and wireless gateways known as ProLinX, and industrial serial and/or Ethernet wireless modules known as RadioLinX.

Over the last 16 years, ProSoft Technology's product lines have grown to over 400 communication modules supporting more than 60 different protocols. ProSoft Technology provides field-proven connectivity and communication solutions that bridge between various automation products as seamlessly as if they were all from the same supplier. These connectivity options enable controller platforms to provide solutions in areas such as computing gas flow calculations and SCADA telemetry applications. These solutions also enable interfacing to motor controls, drives and other devices in industries such as water/wastewater, power generation, oil & gas, machinery, packaging, and production.

ProSoft Technology is committed to providing localized sales and support to customers worldwide. Sales, application engineering and support services are provided internationally by over 500 distributors in 52 countries and served by Regional Area Offices in North America, Latin America, Europe and Asia Pacific.

All ProSoft Technology products come with a one year warranty and unlimited technical support.

For information on the ProLinX 7000 multi-protocol gateway solutions:

Email [prosoft@prosoft-technology.com](mailto:prosoft@prosoft-technology.com) or visit  
[www.prosoft-technology.com](http://www.prosoft-technology.com)

Circle 166 on Reader Service Card

## Industry News

### New S&C Switch Provides Fully Automated Transmission Line Switching

S&C has extended its time-proven-reliable Alduti-Rupter Switch product line with a new 69-kV model. When equipped with an LS-2 Switch Operator and Model 5801 Automatic Switch Control with IntelliTEAM II® Automatic Restoration System, the new Alduti-Rupter Switch provides fully automated transmission line switching.



Although problems on transmission lines occur less frequently than at lower voltages, outages? when they do occur?are very extensive because multiple substations and feeders are affected. IntelliTEAM II can minimize the duration of service disruption for tens of thousands of customers... and dramatically improve your reliability statistics.

Springfield Electric Department, in Springfield, Tennessee, recently installed two 69-kV Alduti-Rupter Switches in an IntelliTEAM II system. The associated Model 5801 Controls communicate via UtiliNet WanGate® Radios and have been configured to provide automatic source-transfer operation after the

# Enabling the Smart Grid

[www.RuggedGrid.com](http://www.RuggedGrid.com)

Providing the  
Communication  
Back Bone for the  
Smart Grid



RuggedSwitch™  
Ethernet Switches

RuggedServer™  
Serial Device Servers



RuggedMC™  
Media Converters

RuggedRouter™  
Cyber Security Appliance

RuggedSwitch™  
IP66/67 Ethernet Switch



**Ruggedized Communications for Harsh Environments**

RuggedCom Inc. | 30 Whitmore Road, Woodbridge,  
Ontario, Canada L4L 7Z4 | [www.RuggedCom.com](http://www.RuggedCom.com)

Tel: (905) 856-5288 | Fax: (905) 856-1995  
Toll Free: (888) 264-0006

preferred-source breaker experiences a second trip. Overcurrent-lockout logic blocks source-transfer operation in the event of a fault between the switches.

For more information, call your local S&C representative now, or visit us on the web at [www.sandc.com/nr](http://www.sandc.com/nr), to learn how S&C can help automate your 69-kV system

**Circle 167 on Reader Service Card**

## Itron Hits Two Million Meter Deployment Mark at Progress Energy

*After Only Eleven Months, Installation is Ahead of Schedule*

In the fall of 2005, Itron and Progress Energy signed a contract to replace 2.7 million traditional electromechanical residential meters with Itron's CENTRON® solid-state, high-accuracy electricity meters equipped with Itron's embedded automated meter reading (AMR) technology. To date, it is the largest signed mobile AMR deployment in North America.

Progress Energy, based in Raleigh, N.C., is one of the nation's 10 largest investor-owned electric utilities, serving customers in Florida, North Carolina and South Carolina.

The original agreement was to complete the deployment in two years, deploying an average of 7,000 meters per day. Progress Energy personnel would use Itron's vehicle-based mobile AMR technology to read more than 10,000 meters per day, compared to the previous daily reads of 400 meters using manual meter reading methods.

In less than one year, Itron has deployed more than two million meters—well ahead of schedule. Itron hit the two million mark the week of June 18, 2006.

"We purposely installed high powered CENTRON meters to ensure the territory would be 'fixed network' ready," said Malcolm Unsworth, senior vice president for Itron hardware solutions. "It took a monumental effort of Itron's manufacturing plant workers in May 2005 to get the high powered CENTRON product ready in time for the deployment."

The product was completed ahead of schedule in time for the start of the deployment which means Progress Energy could easily add CCU's (Cell Control Unit) to any area within their

territory, which is what the utility is planning to do in the St. Petersburg, Florida area, said Unsworth.

Initially, deploying 2.7 million meters within two years seemed like a daunting task, but everyone stepped up the pace to make the goal.

"When this project first started, I kept thinking that 7,000 meters installed in one day might be too much for one company," said Don Welte, vice president of Itron field operations. "But after we started, and we were installing some 13,000 to 16,000 meters per day—it was amazing. It has been a tremendous team accomplishment."

The CENTRON digital meters are more accurate than electromechanical meters and difficult to tamper with, which is expected to reduce cases of energy theft. The new meters will be automatically read via radio signal, thereby eliminating manual data entry errors, the need to access the premise and greatly reducing or eliminating estimated or inaccurate bills.

**Welte said Itron shipped, on average, 60,000 to 70,000 meters per week.**

"Initially, I think there were concerns whether a utility should have one single source for its meters, but this has been a remarkable deployment where everyone has come together to make this successful," said Welte. "Besides the dedication at Itron, we've had terrific partners helping with our installation—Honeywell, Scope Services and Utility Meter Services. We've all worked hard and I think it is reflected in the fact we've installed a record number of meters in less than a year."

To get an idea of how many meters Itron has installed, imagine 775 Sears Towers reaching skyward—that is what 2.7 million meters would look like.

Although the deployment plan runs through the end of the first quarter in 2007, both Progress Energy and Itron are working together to complete the installation of AMR technology by the end of 2006.



By using Itron Mobile Collection System with the AMR-ready CENTRON solid-state meters, Progress Energy has reduced the cost to read residential meters, increased accuracy of meter reads, reduced the number of readers needed and maintained tighter security since meter readers do not need to access private property.

"Using Itron's advanced, solid-state metering technology, Progress Energy joins a growing number of utilities that are putting into place a powerful measurement and communication platform for the future," said Unsworth. "Progress Energy knows first hand that Itron has the knowledge, resources and experience to implement a project of this magnitude in such an accelerated time frame."

For more information, contact Christina Kelly at [Christina.Kelly@itron.com](mailto:Christina.Kelly@itron.com) and visit our website at [www.itron.com](http://www.itron.com)

**Circle 168 on Reader Service Card**



**innovation**



## I have seen the future...

and we're not in it.

**L**ike many of the readers of this publication – and our industry in general – I'm part of that huge chunk of the population commonly known as "Baby Boomers" (or simply "Boomers"). I'm proud of what my generation has accomplished. The many things we've created over the past half-century were mostly the result of hard work and dedication, but admittedly, we won some of those battles simply by the sheer numbers of us.

The most notable upside of the industrial revolution also occurred during this generation, creating the demand for millions of blue-collar workers across the North American continent. Industries sprang up, the economy grew and jobs flourished. But just when it seemed that we were on top of it all, the roof came crashing down. Over the past decade we have witnessed – and continue to see – a massive exodus of those jobs to less developed parts of the world begin to overtake our ability to replace them. Now, we find ourselves trying to rationalize what is happening to our great accomplishments and the jobs, careers and lifestyles we so painstakingly dedicated ourselves to creating.

One reason for this dramatic shift is that while the power industry in North America has been downsizing, much of the rest of the world's power infrastructure has been building – and will probably continue to do so for decades to come. Given those realities, we must not only recognize these changes; we must capitalize on them, and to do that some very deliberate actions must be initiated. Arguably the most vital of those are:

- **E**ducation. We must rapidly place increased emphasis on helping the emerging legions of workers in our industry capitalize on what we have learned over the past several decades. This will be no small task, and it will not be satisfied by half-hearted attempts at on-the-job training or in-house tutorials. Real education will necessarily involve a much broader purview that exposes new hires and apprentice-level workers to the best practices our industry has to offer on a national – if not an international – scale. This means more participation in webcasts, short courses, conferences, exhibitions and symposia for these junior workers rather than reserving these activities for only the most senior staff although their presence remains a vital ingredient in achieving this important knowledge transfer.



- **I**nvestment. We can no longer afford to postpone long overdue grid investments, especially in our T&D infrastructure. Transmission congestion, equipment at the end of its life cycle and an aging workforce will not magically be corrected on their own; proactive efforts and specific commitments are needed now to stem, and eventually reverse, these alarming trends. Yes, there are ways to extend the useful life of assets, and new hires will numerically mitigate the head count losses, but these are small steps when viewed against the backdrop of 20+ years of insufficient investments in human and asset renewal.
- **A**utomation. The archaic notion that automation unnecessarily displaces workers must be rejected, and we must redouble our efforts to make full use of automation wherever possible and as quickly as possible. Automation is the best and most flexible toolset we have readily available to fill the voids left by a dwindling workforce and to capture the knowledge and experience that will be lost if immediate steps are not taken to avert these losses. Automation is all too often looked upon as a solution of last resort when it should be among the very first. Today's automation is effective, affordable and readily available.

Also, no discussion of the changes taking place in our industry would be complete without emphasizing those taking place on a global level. As I said earlier in this text, energy companies in many other parts of the world are building as we in North America are downsizing – yet these developing

regions are looking to us for guidance on how to grow. Perhaps nowhere was this better illustrated than at the recent IEEE Power Engineering Society T&D Conference & Exhibition in Dallas, Texas in May. As you will recall, this conference – originally scheduled for New Orleans last October – was forced to relocate as a result of Hurricane Katrina.

Frankly, I had my doubts about how well the event would be attended with all of the disruptions and abrupt change of venue. However, I was pleasantly surprised to find that not only was the show a success, but it actually set an all-time record for exhibitors (over 600!) and was extremely well attended by a diverse cross section of utilities, suppliers, consultants and others from around the world. Indeed, the Monday night networking reception looked more like a United Nations event than a power industry gathering. I don't recall exactly how many countries were represented there, but there were many.

Perhaps the most eye-opening observation for me, however, was on the second day of the conference as I was on my way back to my hotel from the Dallas Convention Center. I was one of the last to board a jam-packed shuttle bus and took a seat near the back. After getting settled in, I looked around to see if anyone I knew was on board. Nope, not a soul – a totally new experience for me, since I've been an active IEEE/PES member for well over 20 years and had grown accustomed to being at least casually acquainted with a respectable portion of its constituents.

Then, upon further observation, I noticed an interesting demographic on this busload of power engineers. That is, substantially all of the gray-haired guys (like me) were Americans, and we were definitely in the minority. By contrast, the vast majority of the riders were 20- or 30-somethings, many dressed in the native garb of their home countries. It was an eclectic crowd, most engaged in animated discussions about what they had seen and heard during their day at the conference.

Although notably, most of the conversations were in some form of English, I heard French,

German, British, Indian, Spanish and other accents during the short trip to the hotel. Far from being an aberration, my subsequent bus trips for the next two days proved that this was the norm; not the exception. So what was going on here, I wondered? Then it occurred to me that while the US and Canada have been sending fewer delegates to this conference each year, the international community was more than making up for those deficits. But unlike the international participation of the past – composed mainly of students and junior-level technicians – these were engineers and managers in responsible positions, there to learn how to shape their power grids in ways that would mimic the legendary North American reliability model.

It occurs to me that the people on those buses were quite possibly a microcosm of the future of our industry: Young(er) people from around the world learning from a global brain trust formed over decades. So, I guess you might say I've seen the future, and though the

transition is still in progress, my generation's role in it is diminishing and will soon be coming to an end. Although we can all take pride in what we created, we'll have to act fast if we want our legacy to be preserved for those who will need it to survive the mistakes of the past and meet the challenges of the future. - Mike ■

## Behind the Byline

*Mike Marullo has been active in the automation, controls and instrumentation field for more than 35 years and is a widely published author of numerous technical articles, industry directories and market research reports. An independent consultant since 1984, he is President and Director of Research & Consulting for InfoNetrix LLC, a New Orleans-based market intelligence firm focused on Utility Automation and IT markets. Inquiries or comments about this column may be directed to Mike at [MAM@InfoNetrix.com](mailto:MAM@InfoNetrix.com).*

©2006 Jaguar Media, Inc. &

Michael A. Marullo. All rights reserved.



**VIRELEC LTD.**  
Protection, Control & SCADA Systems



System design and engineering

Equipment procurement and panel manufacture

System integration

Testing and site commissioning

We have delivered and commissioned systems to many utilities and industrial customers across Canada and in the USA. In today's power industry environment, let Virelec's team of knowledgeable professionals help you with your P&C or SCADA project.

**Call us at 905-569-8030, fax 905-569-6364  
or e-mail [info@virelec.com](mailto:info@virelec.com)**

# Infrared is the Future THIS IS THE FUTURE OF IN

All our cameras are Industrial Rated IP 54



InfraCAM

- 120 x 120 Resolution
- Fixed Lens
- Stores up to 50 JPEG Images
- USB Connectivity
- 3.5 inch color LCD
- Only 1.2 lbs.
- QuickView Reporting Software

The affordable InfraCAM provides a flexible infrared solution at a great price.

Lease for only  
\$99 per month!\*

Fully Equipped: \$6,750



ThermaCAM® E45

- 160 x 120 Resolution
- Movable spot measurement
- Stores up to 200 JPEG images
- USB Connectivity
- Laser LocatIR™
- Only 1.5 lbs
- 2.5 inch color LCD
- Interchangeable Lens Option
- QuickView Reporting Software

The E45 is ideal for those just getting started and seeking a great price for a FLIR infrared camera.

Fully equipped: \$9,950



ThermaCAM® EX300

- 320 x 240 Resolution
- Movable Spot Measurement
- Stores up to 80 JPEG Images
- Image Gallery Function
- USB Connectivity
- High Temp Option (up to 1200°C)
- Laser LocatIR™
- 2.5 inch color LCD
- Interchangeable Lenses
- QuickView Reporting Software

The EX300 combines robust features and superior functionality in an affordable package.

Starting at \$14,500

## Why do more people buy FLIR infrared cameras than all other brands combined?

FLIR Systems is the world's oldest and largest manufacturer of infrared cameras. Last year, we invested over \$46 million in research and development alone — providing you with the highest quality and widest selection of IR cameras, as well as the best support and training for all skill levels and budgets.

# INFRARED



**ThermaCAM® EX320**

320 x 240 Resolution  
4-to-1 Zoom  
Multiple spot measurement  
Stores up to 50 JPEG images  
Image Gallery Functionality  
USB Connectivity  
High Temp Option (up to 1250°C)  
Laser LocatIR™  
Only 1.76 lbs  
2.5 inch color LCD  
Interchangeable Lenses  
Reporter Basic Software

**NEW! Value Package:**

- > Reporter PRO 7.0 Software
- > Heads-up Display Eyewear
- > Holster for Infrared Camera
- > 2 Extra Batteries
- > And more - Call for details

Starting at \$17,500



**ThermaCAM® P65HS**

320 x 240 Resolution  
Auto Focus, 8-to-1 Zoom  
Built-in Digital Visual Camera  
Wireless Bluetooth® Headset  
Real-time, "Burst" Recording  
Detachable LCD  
Laser LocatIR™  
Target Illuminator  
Stores up to 100 JPEG images  
USB & FireWire Connectivity  
Interchangeable Lenses

**NEW! Value Package:**

- > Reporter PRO 7.0 Software
- > ImageBuilder Software
- > DataBase Software
- > Extra wide-angle or telephoto lens FREE
- > High Temp Option (up to 1500°C)
- > And More - Call for details

Fully equipped: \$49,950

HIGH DEFINITION

**NEW!**



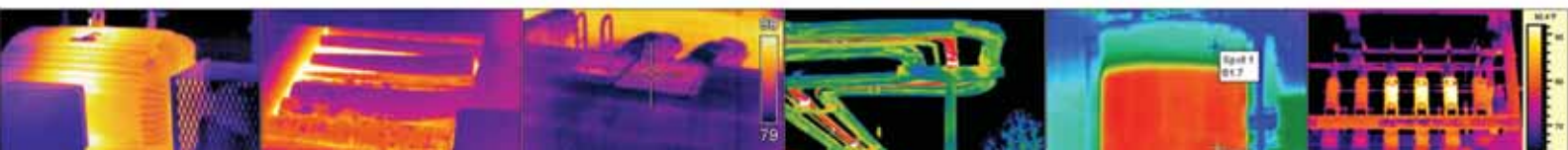
**ThermaCAM® P640**

640 x 480 Superior Resolution  
Interchangeable Lenses  
CompactFlash® Memory Card  
USB and FireWire Connectivity  
QuickView Reporting Software  
Auto & Manual Focus  
8-to-1 Continuous Digital Zoom w/ Pan  
1.3 Megapixel Visual Camera  
Large 5.6" Swivel/Color LCD  
Real-time Picture-and-Picture (PaP)  
Auto Hot Spot on Thermal/Visual  
Built-in Laser LocatIR™  
Target Illuminator  
Bluetooth® Enabled

**BRAND NEW - Just Released!**

- > Ideal for IR consultants and professional thermographers!
- > Great offers! Visit: [www.bestinfrared.com](http://www.bestinfrared.com)

Starting at \$49,950



# How Project Management Will Radically Improve Utility Vegetation Management Performance

## Utility Executives Must Recognize Traditional Utility Vegetation Management Obsolescence

By: Rick Hollenbaugh, Founder and President of Everest Management Consultants, Inc.  
& Jerry Ostrander, PMP, Project Management Solutions Inc.

### If You Always Do What You Have Always Done, You Will Always Get.....

Utility Vegetation Management (UVM) industry cost and reliability performance must be substantially improved to meet increased stakeholder performance expectations. This is driven by a number of factors including inappropriate and fluctuating spending levels, federal, state and local barriers to perform proper maintenance and traditional obsolescence of management and operations work practices. It is important for utility executives to understand that they must change the current UVM industry business practices and environment to meet future performance requirements and stakeholder expectations.

The required changes will not come about merely through increased spending, establishment of performance standards or even performance based regulation. These changes must be driven by utility executives and targeted to fundamentally change the way that the UVM industry is managed in addition to overhauling operational work practices. This change must look and feel like the radical changes that occurred in the nuclear industry in the 1990s. During this period, utilities recognized gross traditional obsolescence and proactively chose to make massive management and operations work practice changes within the nuclear industry. This is what drove best in class cost, scope, schedule, quality and safety performance for the nuclear industry, and a similar approach can transform the UVM industry.

### Why Standards and Performance-Based Regulation are Not Enough

UVM standards and Performance-Based Regulation (PBR) will not be the catalyst that drives UVM cost and reliability performance in the future. It will only serve as an enabler. To further examine the perceived performance pretense that standards and PBR will provide the UVM industry, we first need to explore a few important UVM industry performance standards and areas.

1. Substantial UVM Orders, Rules and Regulations within the State of California including General Order 95, Rule 35 which requires that minimal vegetation-conductor clearances must be adhered to at all times.
  - Result: Many UVM program budgets nearly tripled. This continues to be driven by complex organization structures and sourcing practices; and redundant work practices utilizing hundreds of third party supplemental contractors
2. Following the August 14, 2003 Blackout, the U.S. – Canada Power System Outage Task Force determined tree trimming to be one of the four primary root causes of the outage.
  - Result: North American Electric Reliability Council (NERC) adopted the FAC-003-1 - Transmission Vegetation Management Program standard requiring minimum conductor-vegetation clearances. Utilities are currently assessing increased funding requirements to meet this standard.
3. On April 19, 2004, shortly following the release of the Final Blackout Report, the Federal Energy Regulatory Commission (FERC) issued the UVM order requiring all entities that own, control or operate designated electric transmission facilities in the lower 48 states to

provide information on their UVM practices.

- Result: Forty-one electric utility transmission system owners or 29% of the respondents did not perform all the identified vegetation management remediation by the June 14, 2004 reporting date.
4. The NERC third quarter 2005 Vegetation Management Report demonstrated poor vegetation outage performance
    - Results: Fifteen vegetation-related outages were reported for 200 kV and higher transmission lines during the third quarter of 2005. (Fourth quarter 2005 reporting is not available at the time of this writing)
  5. In January 2005, the Edison Electric Institute (EEI) commissioned Davies Consulting, Inc. (DCI) to conduct The State of Reliability Regulation in the United States study detailing reliability regulation in the United States.
    - Results: DCI determined that thirty-nine states and the District of Columbia have at least reliability reporting as a minimum requirement.
  6. Due to the recent severe weather trend impacting many of the Eastern states, utility commissions such as the State of Florida are aggressively pursuing hardening of utility infrastructure that includes shorter recommended UVM distribution maintenance cycles.
    - Results: While results of commission efforts to date have not been determined, utilities within the State of Florida must be very careful that the past results of the UVM industry in California and elsewhere do not dramatically change the UVM industry landscape in Florida.

Standards and performance based regulation impacting the UVM industry are here to stay. Federal and state regulators have been forced to develop these standards in an attempt to mitigate the poor historical performance of the UVM industry. It would be a mistake to believe that current or emerging UVM standards or PBR alone will drive UVM industry performance to improve. The regulators have established a new reliability performance bar, now it is up to the utility executives to radically change the traditional obsolescence of UVM management processes and operations work practices to perform to these new levels. Only then will breakthrough performance be achieved within the UVM industry such as demonstrated by the nuclear industry during the 1990s.

### The Current State of UVM:

Today many UVM programs are attempting to develop annual and five-year business plans but fail to establish appropriate long-term executive support and sponsorship required for successful execution. So often, utilities utilize historical funding levels to drive today's budget preparation often failing to acknowledge the actual work scope requirements. At the UVM program execution point there is often a lack of centralized decision making critical to drive consistency and deliver results. UVM operational and management oversight are traditionally led by Utility Arborists who have sound UVM technical capabilities but often lack the project management expertise and core competency to successfully deliver higher performance.

### The Emergence of Project Management within the UVM Industry

Project Management has become a discipline pursued by most industries to manage change. It is a disciplined approach that uses schedules, scope estimates and quality requirements to clearly establish performance expectations. It is used to minimize costs, drive productivity and deliver quality products by managing risk using procurement processes that drive accountability. These processes are managed using competent trained personnel that keep all stakeholders informed as necessary and drive performance.

Organizations are dedicating resources to increase their organizational project management maturity by centralizing the oversight of project management people, processes, and tools under the auspices of a Project Management Office (PMO).

Project management is defined by the Project Management Institute (PMI®) as "the application of knowledge, skills, tools and techniques to meet project objectives. Project Management is accomplished through application and integration of the project management processes of initiating, planning, executing, monitoring and controlling, and closing". PMI's Guide to the Project Management Body of Knowledge (PMBOK® Guide) states that managing a project includes:

- Identifying requirements
- Achieving clear and achievable objectives
- Balancing the competing demands for quality, scope, time and cost
- Adapting the specifications, plans and approach to the different concerns and expectations of the various stakeholders

### The New UVM Industry Paradigm

The UVM industry must proactively embrace and successfully implement project management concepts and principles as the catalyst to drive massive operational and management change to improve system reliability, reduce costs, and maximize productivity.

There are many ways to compare this new way of thinking against the current UVM industry operational and management paradigm. Upon comparison, it is very clear how these successful strategies and elements utilized by high performing industries found outside of the UVM industry can radically change UVM industry performance. Figure 1: Traditional and New UVM Paradigm Comparison provides an overview of many key UVM industry performance improvement opportunities.



Will your AMI System  
meet the provisions  
of EPACT?  
**Elster has the answer**

The Energy Policy Act of 2005 (EPACT) requires that utilities offer customers time-based rates and provide the smart metering technology to enable them. Elster's flexible and robust EnergyAxis® System is designed to meet EPACT requirements today. Innovative and multi-tasking, the system's intelligent two-way communications provides highly accurate kWh consumption, kW demand, time-of-use, critical tier pricing, and load profile interval data – all on command.

*Technology to Empower Utilities*

**ELSTER**

**Elster Electricity, LLC**  
Raleigh, North Carolina, USA  
+1 800 338 5251 (US Toll Free)  
+1 905 634 4895 (Canada)  
[www.elsterelectricity.com](http://www.elsterelectricity.com)



## Traditional Paradigm

- Solutions occur at the operational level and are tactical in nature. The results yield problem reoccurrence that leads to higher overhead costs, stagnated effectiveness and erosion of executive management confidence.
- Many UVM programs today lack clear and specific executive management sponsorship. This yields poor organizational accountability and strategic direction that fosters reactive change.
- Years of traditional solutions have led to overstaffed and highly complex UVM organizational structures. This has created tremendous operational overhead, weak accountability and inconsistent work practices.
- A de-centralized UVM operating structure continues to be a predominant theme found throughout the industry. This results in redundant operations that yields higher overhead costs, inconsistent implementation and often sends mixed messages to key stakeholders.
- Many UVM programs today are stereotypically referred to as the "Forestry Group"; "Line Clearance Department"; "Trees" or "Tree Trimming Department". This over-simplistic generalization has created a stakeholder perception of low value and creates negative "green" image that minimizes the organizations strategic importance to the corporation.
- The traditional "three bids and a buy" supply management purchasing methodology has significantly contributed and often times stimulated the evolving contractor apathy within the industry. Many contractors have no strategic incentive to perform any better than the level that the utility has outlined. The result is higher long-term costs, reactive responses to emerging problems and a continued lack of performance innovation.
- Today, many programs consider business planning as a foreign concept. They operate from a tactical level and have no incentive for strategic thinking due to the reactive nature of the industry. This results in significant fluctuations in funding levels, poor reliability performance and a spiraling work scope that lacks disciplined schedule adherence.
- Key Stakeholders both inside and outside the utility have an individualistic attitude and relationship towards each other. They often operate independent of one another. This results in lower customer satisfaction and creates redundant operational applications that ultimately increase the scope of work and operational costs. These conflicting priorities stimulate the reactive nature of the industry.
- Due to the complex and evolving nature of UVM industry. There is an enormous risk exposure to all of the key stakeholders in the form of liability, reliability performance and customer satisfaction. Fluctuating funding levels, lack of schedule adherence and ignored work scope represent the root cause of this exposure. The resulting risk mitigation is highly reactive and often creates higher costs.
- Traditional UVM personnel and the operating infrastructures, processes and procedures and performance they have created over time have not evolved or adapted to the changing needs and increased expectations of corporate executive management. Many programs continue to operate in a vacuum continuously churning out substandard results.
- Information technology has seemingly passed by many of today's UVM programs. This supports the fact that many programs continue to operate by traditional means. The lack of strategic vision specific to the implementation of advanced information systems has created a performance improvement void that results in reactive decision making and missed operational management enhancement opportunities.

## New UVM Paradigm

- Solutions must occur at the executive management level and are strategic based. They must rely on focused return on investment (ROI) decisions that leverage calculated cost benefit analyses.
- Executive management must assume a proactive sponsorship role in coaching and mentoring their programs. This highly interactive and supportive leadership linkage is critical to creating a dynamic synergy throughout the organization.
- Lean and highly structured UVM organizations that focus on single point of accountability will drive total value optimization. This will maximize the business orientation; create strategic vision and problem solving from a root cause perspective.
- Lean centralized UVM organizations will rapidly implement business strategies in a highly efficient and consist fashion. This will result in greater executive management confidence, lower operating costs and focused and specific performance enhancement solutions.
- Stakeholders will view the organizations of the future as dynamic and business driven Utility Vegetation Management Programs that are led by a team of progressive and highly skilled professionals. They will represent the model that other departments will strive to match. The image will emulate business savvy leadership of the highest competence.
- Top quartile organizations will leverage and develop dynamic strategic partnerships with their key vendors. This powerful synergy will catapult both organizations into a mutually beneficial relationship that will ultimately reduce long-term costs and optimize performance through innovation, continuous improvement and consistent operations execution.
- Leading organizations will utilize a comprehensive business plans as their primary foundational cornerstone. This plan will be the strategic platform for all business planning decisions. It will contain historical and future performance data, funding levels and strategic and tactical initiatives that will be used to ensure corporate and department goal and objective linkage. It will be the document that executive management utilizes to ensure that the corporate return on investment (ROI) is optimized.
- Synergistic cooperation among key stakeholders including utilities, municipalities, railroads and the State Department of Transportation will reduce work scope, maximize the return on investment (ROI) and improve customer satisfaction. The formation of these strategic relationships is paramount to significant performance improvement breakthrough opportunities.
- Calculated and quantifiable risk management strategies that proactively recognize, rapidly assess and strategically execute corrective actions will be the key to minimizing the risk exposure. This will ensure safety and improved reliability and customer satisfaction.
- Executive management must demand and expect a consistent high level of performance that is focused on strategic business planning and disciplined project management execution that leverages non-traditional perspectives to innovative solutions. These programs must be capable of rapidly adapting to corporate strategy changes associated with mergers and acquisitions.
- Top quartile UVM programs will proactively assess their opportunities and applications and rapidly capitalize on the installation of the latest information technology and systems integration tools. Advancements in Internet, Geographic Information Systems (GIS) and data management systems that spatially represent information will provide quantum levels of improvement in operational areas such as work scope management, information management and communications.

Figure 1: Traditional and New UVM Paradigm Comparison

## Identifying Requirements

The new paradigm focused on project management will require that corporate strategic plans fully support the UVM annual and five-year business plans. The UVM work scope within the annual plan is estimated against actual work scope and is fully supported by the corporate budget. All work scope plans and budgets are placed under a formal change control process. Formal and documented processes are established to estimate the work, develop credible schedules and contract the work. The annual and five-year UVM plan will meet regulatory and system reliability performance objectives.

A UVM PMO will establish and enforce project management processes and procedures. Utilities information technology will support the development of credible estimates and schedules. This technology can monitor cost and schedule performance. Appropriate software tools will be utilized to establish work scope prioritization in order to obtain the highest degree of system reliability for the UVM budget. The work scope specifications and objectives will be clearly defined. The vendor(s) will know exactly what is expected. Estimating tools will be based on actual work scope and not on historical parametric estimating factors. Simple estimating tools are developed using GPS technology to capture the scope and estimate of the work on a common data base.

Other industries have found that the only way to consistently improve performance is to measure performance against benchmarks or standards. The construction industry has established reliable productivity benchmarks which are used to accurately estimate a known scope of work. This allows the owner to decide if the venture fits into the annual budget constraints. It provides the basis for making adjustments to the work scope prior to initiating the activities. Similar benchmarks (estimating standards) can be developed by UVM to allow the right decisions to be made in developing the annual plan and five year plans. These estimates of desired work scope along with reliability modeling software will help the utility identify the right requirements for UVM. The UVM requirements will be tied directly to reliability along with an accurate reflection of the budget required to meet the reliability objectives.

## Achieving Clear and Achievable Objectives:

A significant relationship and operational gap exists between utilities and vendors resulting in substantially lower performance, redundant work practices and much higher costs. The bottom line is that Utility Arborists don't trust vendors and vendors only perform to the degree requested or required by the utility. This "parent-child" relationship gap must be eliminated for the industry to mature to higher performance levels. UVM vendors possess over 50% of the cost, productivity, reliability performance enhancement solutions and are rarely provided uninhibited opportunity to add greater value. It is very clear that Utility Arborists seek to obtain operational and management dominance over vendors primarily to justify their positions or because of some past incidents that have occurred. This long running issue has been a primary driver in the erratic performance of vendors and the shrinking vendor base.

Finally, many utilities are utilizing "cycles" as the basis for establishing a Preventive Maintenance plan. Overlooking an asset management based optimization process to develop annual and long-term plans supports the fact that the UVM industry has many obsolete work practices. In the new project management paradigm, it will be critical that utilities eliminate the costly and unnecessary operational work practice that requires sometimes hundreds of third party quality control or work planners to support UVM programs. A few questions remain regarding this subject:

1. What is the total process cost to utilize third party contractors as UVM program supplemental labor?
2. What is the total value of this traditional practice?
3. Why can't vendors provide first time quality and appropriate work planning?
4. To what degree do Utility Arborists justify their positions with respect to quality and work planning management or oversight?
5. How can major construction projects, nuclear power plant outages and car manufacturing projects constantly deliver first time quality and on cost and schedule performance without utilizing a complex structure such as found within the UVM industry?



Drive-by technology  
may suffice today, but  
what about tomorrow?  
**Elster has the answer**

If you choose a technology limited to basic AMR, you may bypass the opportunity to improve your business operations. An Advanced Metering Infrastructure system, the EnergyAxis® System's intelligent two-way communications empowers utilities to remotely collect energy, demand, TOU, and interval data on demand. The EnergyAxis System supports the requirements of AMI without changing meters or network infrastructure.

*Technology to Empower Utilities*

**ELSTER** 

**Elster Electricity, LLC**  
Raleigh, North Carolina, USA  
+1 800 338 5251 (US Toll Free)  
+1 905 634 4895 (Canada)  
[www.elsterelectricity.com](http://www.elsterelectricity.com)



The new project management paradigm will require that all UVM Preventive and Corrective Maintenance work scope support the utilities system reliability and cost goals and objectives. The work will be performed cost effectively by empowered vendors. Cost effective performance and productivity is enhanced by eliminating duplication of effort and making the appropriate UVM operational stakeholders accountable. Thus eliminating the redundant work practices and high cost associated with over functioning UVM staff.

Reliability modeling software will be used to identify the highest priority Preventive Maintenance work. The work scope is captured in manageable size work packages aligned with the UVM Annual Plan detailing work scope. These work packages provide the work scope specifications, resource requirements, schedule requirements, assumptions and quality standards. System reliability and regulatory compliance requirements will drive the scope of work.

The work packages would be estimated by actual utility personnel utilizing a valid estimating

process supported by the vendors. These work packages would be placed under contract with a VM vendor using an incentive and penalty structure contracting structure. The UVM program will establish long-term collaborative partnerships with vendors to minimize duplication of effort. Changes to the work package will be under documented change control processes. Impacts for changes will be assessed prior to approval. Approved changes are negotiated and the contract changed accordingly. In addition, schedules and budgets will be systematically changed to reflect the impact of approved scope change.

The vendors will schedule the resources required to perform the work package and status of the work performed is reported to the UVM department. The vendors are 100% accountable to deliver first time quality with the utility performing minimal but appropriate statistical quality control validation. Any work that does not meet the quality requirements in the work package must be reworked prior to acceptance of the work package for payment.

Contract management has been found as a critical element when deciding to buy services. Clearly defined contractual requirements, a well defined scope of work, well understood and enforceable specifications, vendors having a common vision of success, and competent oversight provides an environment to successfully manage a contract. Construction and IT industries have found that many contracts have failed to deliver the desired results when these elements are not present.

### Balancing the Competing Demands for Quality, Scope, Time and Cost

The fatal flaw within the UVM industry today which strongly supports obsolescence of traditional approaches is the inability of the Utility Arborist and vendors to appropriately assign and manage the demands associated with quality, scope, time and cost. Instead of serving as effective Project Managers, Utility Arborists feel compelled to often manage vendor's quality, scope, time and cost processes. This is also known to occur in highly inconsistent bases fostering further UVM program operational and management performance sub-optimization. In the future, Utility Arborists must serve as highly efficient Project Managers and vendors must act as high

performing partners proactively manage quality, scope, time and cost parameters.

This new project management paradigm will require that the UVM five-year and annual plan are based on getting maximum system reliability for the budgets allotted. The work packages established by the utility clearly define the scope and that quality specifications dictate acceptance requirement for the work performed. The requirements drive system reliability based on type of vegetation, clearances and removals that are required. Federal, state and local barriers are collaboratively, proactively and aggressively resolved by all key stakeholders.

The vendors will be rewarded for meeting or exceeding cost, schedule and quality requirements. They have documented quality programs that assure that quality and specifications are met the first time, on schedule under budget. The vendors assume day to day resource and work scope scheduling accountability based on the UVM program annual plan. Deviations to the contract and work package are handled through a systematic change control process. Project management software tools will be used to status work packages and help identify performance issues.

The construction industry has found that establishing partnerships with their vendors often helps improve quality and reduces costs. Vendors that become part of the solution instead of blindly following direction from the owner have paid significant dividends. No one understands how to improve performance better than the people performing the work. Doing the work right the first time simplifies work acceptance and always saves money even if rework is part of the contract.

### Adapting to the Different Concerns and Expectations of the Various Stakeholders

The performance challenges surrounding the UVM industry are not new. One of the reasons for the obsolescence of traditional UVM practices is the fact that the industry has not been successful in consistently adapting annual plans, approaches and operations to the emerging expectations of key stakeholders. Significant and recurring historic key stakeholder challenges exist with the UVM industry. These challenges include:

## GENERATORS

**125KW - 2200KW**

## IN STOCK!

### Trailer-Mounted Diesel Generators

Capacities: 125 - 2200KW  
(Available Voltages Up To 4,160V)

### Skid-Mounted Generators

Capacities: 30 - 175KW



Call to ask about our extensive line of  
Industrial Power Plant Equipment available!

**INDECK**

tel: 847.541.8300 / 800.446.3325

fax: 847.541.9984

email: [info@indeck-power.com](mailto:info@indeck-power.com)

[www.indeck.com](http://www.indeck.com)

#### UVM Personnel

- Continued use of high cost and obsolete operational and management business practices
- Inappropriate business literacy and project management skill set
- Use of third party supplemental resource driving complexity and higher costs

#### Utility Executive Management

- Inconsistent and inappropriate long-term UVM program funding
- Hands-off day-to-day UVM program sponsorship
- Inappropriate IT systems and tools support
- Inconsistent customer, agency and municipal interactions

#### Regulators

- Believing the UVM program standards will drive increased performance
- Historically inconsistent UVM reliability performance expectations
- Inability to effectively support utilities against inappropriate federal, state and local barriers

#### Vendors

- Lack of proactive operational innovation and continuous improvement
- Shrinking vendor base
- Inconsistent use of long-term collaborative partnership procurement strategy
- Lack of motivating and delivering on contract incentives

#### Governmental Agencies

- Practices often support barriers to performing required UVM work
- Lack collaborative partnerships with the UVM industry

The solution to these challenges lies in the ability of all five key stakeholder groups to collectively eliminate each barrier in which they can influence. The most effective way to accomplish this is through project management techniques and processes. Within the new project management paradigm, competing priorities will be mitigated by developing a common vision and set off objectives for all key UVM stakeholders. An efficient and comprehensive risk management process will drive this mitigation effort. Impacts to the annual and five-year UVM plans will be analyzed prior to approval for impacts on schedule, cost and quality.

## Conclusion

In a recent study by the Center for Business Practices (2006), 364 organizations reported that improving their project management practices resulted in an average performance improvement of more than 37%. Project management will likewise help the UVM industry to drive efficiency and effectiveness, improve its ability to measure and report progress, and provide faster identification of failing work packages and contracts. Electric utility executives must make a conscious decision to fundamentally change the way their UVM programs are being managed, and leverage project management practices to improve performance. Only then will the benefits derived from project management been realized by the UVM industry. As an executive ask your self – What is the unrealized value found within your UVM program worth to the corporation? In the future, enhanced UVM industry cost and reliability performance rests squarely on the shoulders of utility executive leadership. Utility leadership must challenge and radically change traditional and obsolete UVM operational and management practices in order to achieve the performance results found outside of the UVM industry. ■

## About the Authors

**Rick Hollenbaugh** is the founder and President of Everest Management Consultants, Inc., an organization specializing in progressive business-driven electric Utility Vegetation Management solutions.  
<http://www.everestmci.com>,  
email : [rick.hollenbaugh@everestmci.com](mailto:rick.hollenbaugh@everestmci.com)

**Jerry Ostrander** PMP has 26 years project management experience and is a Managing Consultant with Project Management Solutions. Project Management Solutions is a management consulting firm dedicated to helping clients optimize performance and execute business strategies through effective project management practices.  
<http://www.pmsolutions.com>,  
email : [gostrander@pmsolutions.com](mailto:gostrander@pmsolutions.com)

\*PMI\* and \*PMBOK\* are registered trademarks of the Project Management Institute, Inc.



Will the reliability of  
your AMI meet all their  
future expectations?

**Elster has the answer**

Elster Electricity's EnergyAxis® System delivers the high accuracy, reliability, flexibility, and robust operation today's utility demands, and their next generation customers will expect. Built on proven metering and intelligent controlled mesh network technology, the EnergyAxis System's advanced capabilities empower utilities to improve business operations, provide a variety of consumer time-based rate choices, enhance distribution planning, and improve revenue assurance.

**Technology to Empower Utilities**

**ELSTER**

**Elster Electricity, LLC**  
Raleigh, North Carolina, USA  
+1 800 338 5251 (US Toll Free)  
+1 905 634 4895 (Canada)  
[www.elsterelectricity.com](http://www.elsterelectricity.com)





# UNDervoltage Load Shedding – PART 2

By: Charles Mozina, Consultant, Beckwith Electric Co., Inc.

## I. Introduction

In the previous issue of EE T&D part 1 of the article on Undervoltage Load Shedding discussed the investigations of recent blackouts [1,3,7], which indicate that the root cause of almost all of these major power system disturbances is voltage collapse rather than the under-frequency conditions prevalent in the blackouts of the 1960 and -'70s. It explored the nature of recent power system blackouts (2003 east coast, 1996 California and others) and explains why voltage collapse is the leading edge indicator of impending power system problems. This article (part 2) discusses the design and security issues that need to be addressed in the design of an undervoltage load shedding (UVLS) scheme and why relying on underfrequency load shedding (UFLS) maybe "too little, too late." This article also addresses the current level of UVLS on utility systems as well as current NERC (North American Electric Reliability Council) pronouncements on the subject.

## I. STATUS OF UNDERVOLTAGE LOAD SHEDDING (UVLS)

Simply stated, the philosophy of UVLS is that when there is a system disturbance and the voltage drops to a pre-selected level for a pre-determined time, then selected loads are shed. The intention is that when load is shed for a disturbance, the voltage will recover to acceptable levels thereby avoiding a more widespread system voltage collapse. Developing a UVLS program requires coordination between protection engineers and system planners, who together can determine the amount of load and time delay required in the shedding program. System planning engineers conduct numerous studies using P-V (nose curves) as well as other analytical methods to determine the amount of load that needs to be shed to retain voltage stability under credible contingencies. Voltage collapse is most probable under heavy load conditions where large amounts of power are be transported from remote generation sites and the bulk of the system load consists of motors.

Two basic types of UVLS schemes are being applied: decentralized (or distributed) and centralized. A decentralized scheme has relays installed at the loads to be shed. As voltage conditions at these locations begin to collapse, load assigned to that relay is shed. This philosophy is similar to UFLS schemes. A centralized scheme has undervoltage relays installed at key system buses within the area and trip information is transmitted to shed load at various locations. Additional logic is sometimes applied to add security to the system. Many of these schemes are categorized as "special protection" or "wide area" protection schemes. These schemes require high-speed and reliable communication to properly operate.

If voltage collapse is the major cause of power system blackouts, then what is the current status of UVLS and what are NERC's pronouncements on the subject? Implementation of UVLS is not mandatory for NERC member systems. However, NERC has recognized it as a cost-effective method to address voltage collapse. Although most systems studies find UVLS very effective in preventing voltage collapse, it may not benefit all systems. For example, systems with fast voltage decay characteristics (less than a second) may find direct load tripping to be a better alternative. However, systems that are at a risk of fast voltage decay may also be at a risk of slower voltage decay under different conditions. Studies should be performed to determine which systems are the potential candidates for a suitable UVLS scheme. Planning engineers within the regional NERC groups in the U.S. generally conduct these studies.

The most aggressive region in the U.S. that has extensively investigated UVLS is the WECC (Western Electricity Coordinating Council), which has established UVLS guidelines for its members. This regional council serves the western part of the U.S. WECC views automatic UVLS as a safety net to protect the system from collapse or cascading for outages beyond the normal NERC and WECC design criteria.

### The WECC has established the following design guidelines in developing UVLS schemes [8]:

1. UVLS should be designed to coordinate with protective devices and control schemes for momentary voltage dips, sustained faults, low voltages caused by stalled air conditioners, etc.
2. The time delay to initiate load dropping should be in seconds, not in cycles. A typical time delay is 3 - 10 seconds.
3. UVLS relays must be on VTs that are connected above automatic LTCs (on the source side).
4. Voltage pick-up points for the tripping signal should be set reasonably higher than the "nose point" of the critical P-V nose curve.
5. Voltage pick-up points and the time delays of the local neighboring systems should be checked and coordinated.
6. Redundancy and enough intelligence should be built into the scheme to ensure reliable operation and to prevent false tripping.
7. Enough load should be shed to bring voltages to minimum operating voltage levels or higher and maintain VAR margin according to WECC's Voltage Stability Criteria.

System blackouts that were caused by voltage collapse are not confined to the U.S. Major blackouts happened around the world. Blackouts in Italy, Japan, eastern Denmark and southern Sweden have occurred within the last few years and are all related to voltage instability. These and the U.S. blackouts have resulted in utilities beginning to implement UVLS schemes. Table I summarizes a few of the existing UVLS applications at various utilities.

# Helping Crews Work **SAFER and SMARTER.** For Over 75 Years.



**O**ur customers depend on us for safe and reliable service. Our Altec equipment enables us to deliver that."

Tom Kelly,  
Matanuska Electric  
Association  
Palmer, AK

**A**t Altec, our top priority has always been knowing and understanding the day-to-day needs of linemen. And one requirement that never changes is safety. That's why everything we do, from design to manufacturing to customer service, is aimed at helping our customers provide crews the safest work environment in the industry. For over 75 years, we've been building equipment that helps you work "Safer and Smarter®".

#### Altec Safety Technology

Altec ISO-Grip® with Interlock Guard • Altec SENTRY® Program • Standard Five-Function HOP  
Altec Electronic Side Load Protection • Standard Outrigger Interlocks • Altec Rota-Float®  
Altec Opti-View® Control Seat • Altec LMAP • Automatic Boom Stow • Telematics

For more information, call 1.800.958.2555 or visit [www.altec.com](http://www.altec.com)



Circle 106 on Reader Service Card

Utilities	Type	Voltage Collapse Detection	Contingencies
<b>A</b>	De-centralized	- 5% shed load below 90% voltages for 3.5 seconds - 5% shed load below 92% voltages for 5.0 seconds - 5% shed load below 92% voltages for 8.0 seconds	Loss of 500kv double circuit line
<b>B</b>	Two independent centralized PLCs at control centers	- Low voltage at three 230kv S/Ss and high total reactive outputs at generators	500kv voltage collapse
<b>C</b>	EMS based Centralized System	- Low Voltage, Generator Current Limiter, and High Reactive Power detected by relays and signals sent via EMS - Actions are starting Gas Turbine, switching Shunt Reactor, and Load Shedding	
<b>D</b>	U/V relay equipped on potential from line side of breaker at three 230 S/Ss	- 90% voltage	
<b>E</b>	4 subsystems with microprocessor based relay linked via ring communication	- continuous unusual voltage decay at 500kv S/Ss based on $\Delta V / \Delta T$ - 3 out of 5 to detect voltage collapse	extreme contingencies
<b>F</b>	Centralized at two control centers for redundancy	- U/Vs at five S/Ss - 3 out of 5 for bad data rejection	extreme contingencies
	EMS based centralized system	- 138kv U/V (.93) at 4 out of 5 locations - 138kv U/V (.98) at 4 out of 5 locations & OEL at a unit	Loss of a 345kv line, a 230kv line or a generator with critical generator off-line
<b>H</b>	Centralized PLC at control center	- U/Vs at two 115kv S/Ss for long term - U/V & loss of two 345kv lines for short term	Loss of two 345kv lines
<b>I</b>	De-centralized U/V relays at selected S/Ss	- Single setpoint U/V relays installed at various S/Ss with various time delays - Program sheds 10% of system load	Loss of multiple 345kv lines in northeast Ohio

TABLE I Existing UVLS Applications [6]

Some utilities install centralized controllers to receive information like undervoltage (U/V), high reactive output, or loss of lines from remote substations (S/S's) or power plants and sending initiation signals for load shedding to substations. In other cases, the UVLS function is applied as part of EMS center program. Others have installed an UVLS program using decentralized undervoltage relays in substations. Sophisticated wide-area controls using signal processing, real-time control computers and phasor measurement are call wide-area protection or special protection schemes.

## II. DESIGNING A SECURE UVLS SCHEME

### A. UVLS vs. UFLS Schemes

As discussed above, UVLS programs are designed into utility electrical systems to operate as a last resort, under the theory that it is wise to shed some load in a controlled fashion if it can forestall the loss of a great deal of load to an uncontrolled cascading event. There are two kinds of automatic load shedding installed in North

America: undervoltage load shedding—which sheds load to prevent local area voltage collapse, and under-frequency load shedding—which is designed to rebalance load and generation within an electrical island once it has been created by a system disturbance.

Typically, automatic UVLS responds directly to voltage conditions in a local area. UVLS drops several hundred megawatts of load in pre-selected blocks within load centers, triggered in stages when local voltage drops to a designated level—likely 89 to 94%—with a several second delay. The goal of a UVLS scheme is to shed load to restore reactive power relative to demand, to prevent voltage collapse and to contain a voltage problem within a local area rather than allowing it to spread in geography and magnitude. If the first load-shed step does not allow the system to rebalance, and voltage continues to deteriorate, then the next block of load is dropped.

In contrast, automatic under-frequency load shedding (UFLS) is designed for use in extreme

conditions to stabilize the balance between generation and load after an electrical island has been formed, dropping enough load to allow frequency to stabilize within the island. By dropping load to match available generation within the island, UFLS is a safety net that helps to prevent the complete blackout of the island, and allows faster system restoration afterward. UFLS is not effective if there is electrical instability or voltage collapse within the island.

Today, UFLS installation is a NERC requirement, designed to shed at least 25-30% of the load in steps within each reliability coordination region. These systems are designed to drop predesignated customer loads automatically if frequency gets too low (since low frequency indicates too little generation relative to load), starting generally when frequency drops to 59.3 Hz. More load is progressively dropped as frequency levels fall farther. The last step of load shedding is set at the frequency level just above the setpoint for generation under-frequency protection relays (typically 57.5 Hz), to prevent frequency from falling so low that generators could be damaged

### B. Selection of Voltage Relays for UVLS

Voltage relays will sense all voltage depressions regardless of cause. Some techniques can be used to improve the ability of undervoltage relays to discriminate between conditions—those which require load shedding, and those that do not [7].

- The relay may measure all three-phase voltages or positive sequence voltage. With this technique the relay is less likely to respond to unbalanced short circuits.
- The relay may initiate timing only if the measured voltages are within a window, below a maximum level, and above a minimum level to ensure that load will not be shed for accidental loss of signal to the undervoltage relay or for slowly-cleared, three-phase faults which depress the system voltage to less than the minimum level.
- The relay applied must have a high reset ratio. This is necessary so that only a small recovery in voltage level is required to stop the shedding sequence. High accuracy relays are required, with low setpoint drift. The accuracy of the voltage transformers supplying the relay must also be considered in assessing the overall accuracy of a scheme.

Modern digital relays are an ideal relay to use in undervoltage load shedding application since they have the characteristics cited above.

### C. Secure UVLS Schemes

There are two basic types of automatic UVLS schemes that utilities have installed. Both types involve the installation of undervoltage relays at key utility substations. These relays must measure the transmission system voltage and are typically installed at the primary of distribution substations that are located close to key transmission substations. Fig. 1 shows a typical utility installation of both undervoltage (27) and under frequency (81) relays.

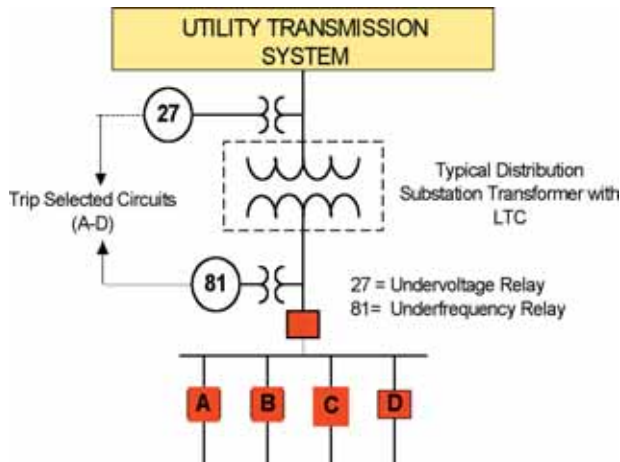


Fig. 1 Typical Utility Substation Load Shedding

Because of VT availability, underfrequency relays are usually connected on the secondary of the distribution station because frequency is the same on both the high and low side of the transformer. The voltage measurement for UVLS must be on the transformer primary since transformer losses and load tap changing (LTC) controls will distort the true transmission system voltage level. Fig. 1 illustrates a direct tripping type of UVLS. To add security, some UVLS schemes are only enabled if system conditions have occurred that indicate that the power system is in a "stress condition." Conditions such as net power import versus local generation or undervoltage measurements at key transmission substation buses are used to arm these UVLS schemes. Some utilities call such schemes "special protection schemes." These schemes add an additional level of complexity and generally rely on communications to arm the scheme. Also, they may not be armed quickly enough to be activated for undervoltage events caused by slow-clearing, multi-phase transmission system faults that occur during heat storm conditions.

Design of a secure undervoltage separation scheme that avoids false operations for such events as slow clearing system faults requires some logic as well as a relay that can accurately measure voltage within acceptable limits. The undervoltage relay needs to be highly accurate. A measurement accuracy of  $\pm 0.5$  V on a 120 V basis is required. Also, the undervoltage relay that is used needs to have a high pickup/dropout ratio. This ratio needs to be near 100% so that when voltage recovers after a system fault, the relay will quickly reset to the non-trip condition. To meet these requirements, as well as the logic described below, digital relays are almost exclusively being used for UVLS.

Single-Phase UVLS Logic -- Logic can be used to enhance the security of an undervoltage separation scheme to prevent false operation due to slow-clearing system faults. Fig. 2 illustrates a scheme using single-phase line to ground voltage measurements.

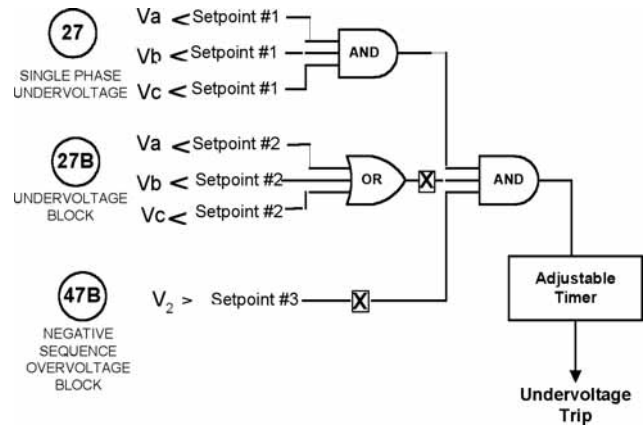


Fig. 2 Single-Phase UVLS Logic

The voltage collapse is generally a balanced voltage event with voltage on all three phases being approximately equal. Fault conditions (with the exception of three-phase faults) result in unbalanced phase voltages. This fundamental difference between low voltages caused by faults versus voltage collapse can be used to add security to a separation scheme.

# FREE

## ELECTRICAL TESTING PRODUCT CATALOG



Our **NEW 2006 catalog** features hundreds of electrical test and measurement instruments for maintenance professionals in electric utility, electrical testing service company, industrial and government facility testing applications. This catalog will serve as a great reference tool with all the information necessary to make your test instrument purchasing decisions for 2006. **Request your FREE 2006 Catalog today . . .** while supplies last.

**US Phone:** 1-800-723-2861  
**US Fax:** 1-214-331-7379  
**Canada Phone:** 1-800-297-9688  
**Canada Fax:** 416-298-0848  
**Email:** sales@megger.com  
**Website:** www.megger.com

Megger

Circle 136 on Reader Service Card

The logic shown in Fig. 2 requires that all three line-to-neutral voltages must drop below setpoint #1. Additional security can be added using undervoltage (27B) blocking. Since the magnitude of undervoltage due to impending voltage collapse is 89-94%, blocking operation for low voltages that are fault-induced adds more security. Fig. 2 indicates that any line-to-neutral phase voltage that drops below setpoint #2 will block the operation of the scheme. The last security measure in the logic scheme in Fig. 2 is the use of negative sequence voltage (47B) to block operation of the separation scheme.

During unbalanced fault conditions (all fault except three phase faults), negative sequence voltage will be present. Since voltage collapse events are balanced voltage conditions, only a very small level of negative sequence voltage is present. The equation that defines negative sequence voltage is shown below.

$$V_2 = 1/3 ( V_a + a^2 V_b + a V_c )$$

Where :  $V_a, V_b, V_c$  are line-to-neutral voltages

$$a = 1 \angle 120^\circ$$

$$a^2 = 1 \angle 240^\circ$$

To account for the 120° phase angle displacement between phases, unit phasors (a and a²) are used in symmetrical component terminology. For completely balanced three-phase voltages, the negative sequence voltage is zero. Negative sequence voltage blocking is used to detect unbalanced fault conditions and block the undervoltage scheme from improper operation.

Positive Sequence UVLS Logic -- Another logic scheme to enhance security for voltage separation is shown in Fig. 3.

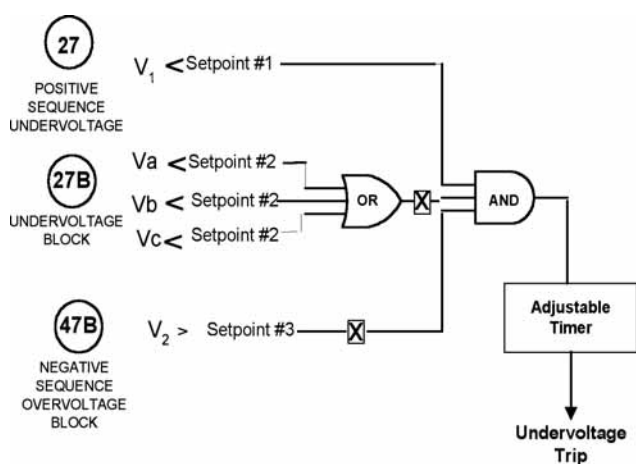


Fig. 3 Positive Sequence UVLS Log

The scheme is similar to that shown in Fig. 2. The blocking elements are the same. But this logic scheme uses positive sequence rather than individual phase-to-neutral voltages to detect an undervoltage condition. Positive sequence voltage is a symmetrical component term and is defined by the following equation:

$$V_1 = 1/3 ( V_a + a V_b + a^2 V_c )$$

Where:  $V_a, V_b, V_c$  are line-to-neutral voltages

$$a = 1 \angle 120^\circ$$

$$a^2 = 1 \angle 240^\circ$$

For completely balanced three-phase voltages, the positive sequence voltage is equal to the value of the normal phase to neutral voltages –that is,  $V_1 = V_a = V_b = V_c$ . Positive sequence voltage provides a single quantity as the actuating voltage for undervoltage separation and does not require that all three voltages be below a given setpoint as required in the logic scheme discussed in Fig. 2. Both schemes discussed in Fig. 2 and 3 are easily programmed into modern digital relays. One of the benefits of digital relay logic is that the blocking logic can be modified to suit the user. If undervoltage and/or negative sequence blocking is not desired by the user, it can be easily eliminated in the logic.

Additional security can be provided at critical facilities using a “voting logic” scheme. The “voting logic” means that multiple protective relays are applied with identical settings and logic at the same measuring point on the system. A majority of the devices must agree before action is taken. The purpose of voting logic is to get confirmation of the system conditions from more than one protective relay, thus avoiding potential false tripping based upon a malfunctioning protective relay. If two relays are installed at each location, two out-of-two logic is used. This logic requires both relays to operate before tripping is initiated. If three relays are used, two-out-of-three logic is used requiring any two relays to confirm the trip condition. Two-out-of-three logic is common in nuclear plant voltage separation schemes.

### III. UVLS SETTING CONSIDERATIONS

As previously discussed, setting and design of an UVLS requires close cooperation between the relay engineers and system planners. System planning engineers conduct numerous studies using P-V curves and other analytical methods to determine the amount of load that needs to be shed to retain voltage stability under various contingency conditions. Voltage collapse is most probable under heavy load conditions, so the amount of load to be shed depends on system peak load and generation sources. When considering the type of load to be shed, constant KVA loads such as motors are good candidates for shedding since they draw more current as voltage is decaying. The following is an example that discusses the consideration in setting UVLS relays. The first step is to determine the P-V curves for creditable voltage collapse scenarios.

Fig. 4 show an example P-V curve for a creditable contingency. The knee of the curve at which the voltage will collapse is identified as  $V_{collapse}$ . A setting margin or safety factor is desired and then the accuracy band of

the relay and VT is shown. The setting ( $V_{\text{setting}}$ ) must be set above these margins. As with all relay settings, dependability and security need to be balanced. If too small a margin is chosen, there is a risk of the scheme operating during allowable emergency conditions that do not yet require load shedding. If too small a margin is chosen, then load shedding could occur after the system passes below the nose curve voltage collapse point ( $V_{\text{collapse}}$ ) shown in Fig. 4.

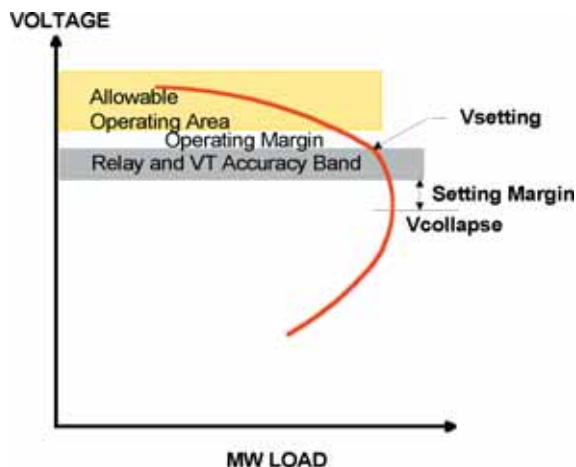


Fig. 4 Example P-V (Nose) Curve

Fig. 5 illustrates this point. The choice of time delay and the number of setpoints are also critical settings, especially for distributive or decentralized schemes which trip load directly. Again, planning studies can provide help in selecting the time and setpoints. Typically, there are fewer setpoints in UVLS schemes than are used for UFLS. Some utilities have chosen one voltage pickup point with different time delays for each block of load shed. Time delays are generally set at 2 - 10 seconds—not in the cycle range common for UFLS.

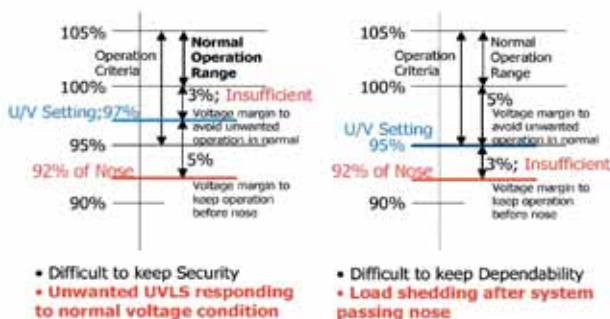


Fig. 5 Difficulties in Coordinating UVLS Pickup Setting

# SCADA & AMR & LOAD MANAGEMENT & Over One Network

## SMD - SCADA Multidrop Mux

- For Multidrop Networks
- Works over Radio, Modem, DDS Networks
- Mix Protocols
- Mix Speeds
- Protocol Transparent
- Easy to Install & Manage
- Saves \$1,000s



# All in One!

- DACS
- T1/E1
- Router
- Frame Relay
- FXS/FXO/E&M
- HDSL/IDSL
- SNMP
- RS232/RS449/V.35



**Data Comm for Business, Inc.**  
2949 CR 1000E • Dewey, IL 61840 USA  
Phone: 217 897 6600 • FAX: 217 897 1331  
EMAIL: info@dcbbnet.com

WEB: <http://www.dcbnet.com>  
1 800 432 2638

## IV. CONCLUSIONS

Investigations of recent blackouts confirm that the root cause of almost all of these major power system disturbances is voltage collapse rather than the underfrequency conditions prevalent in the blackouts of the 1960's and -'70s. The operation of today's power system with load centers remote from the generation source makes today's power system very dependent on the transmission systems that interconnect load and generation. Loss of transmission lines result in high VAR losses that cause voltage collapse at the load center. UVLS is a viable method of providing protection to avoid system voltage collapse. Implementation of UVLS is not mandatory for NERC member systems. However, NERC has recognized it as an important method to address voltage collapse. Although most systems studies find UVLS very effective in preventing voltage collapse, it may not benefit all types of voltage collapse scenarios. For example, systems with fast voltage decay characteristics (less than a second) may find UVSL to be too slow to prevent collapse. UVLS provides a "system safety" net and is an economical method of addressing voltage collapse situations using the philosophy that it is better to shed some load if shedding that load can prevent a much larger outage. Ultimately, however, transmission lines need to be built to address creditable undervoltage conditions.

UVLS schemes are more difficult to design and to set than UFLS and require close cooperation between utility relay engineers and utility system planners. There are two types of UVLS schemes --- decentralized or distributed and centralized. Both types of schemes are being applied, as individual utilities are beginning to apply UVLS on their own without being mandated to do so by NERC.

This article discussed the considerations in developing a secure UVLS scheme and it is the hope of the author that it has focused on the key design and setting questions that need to be addressed.

## VII. REFERENCES

- [1] C. J. Mozina, Power Plant Protection and Control Strategies for Blackout Avoidance, Georgia Tech Protective Relay Conference, April 2005.
- [2] B.R. Williams, W.R. Schmus, D.C. Dawson, Transmission Voltage Recovery Delayed by Stalled Air Conditioner Compressors, IEEE PES Transactions on Power Systems, Vol. 7, No.3 August 1992.
- [3] North American Electric Reliability Council (NERC), 1987 System Disturbance Report, p19, July 1998.
- [4] U.S. - Canada Power System Outage Task Force, Final Report on the August 14, 2003 Blackout in the United States and Canada: Causes and Recommendations" April 5, 2004.
- [5] G.C. Bullock, Cascading Voltage Collapse in West Tennessee, August 22, 1987, Georgia Tech Relay Conference, May 1990.
- [6] S. Imai, Undervoltage Load Shedding Improving Security as Reasonable Measure for Extreme Contingencies. IEEE PES Transactions on Power Delivery.
- [7] IEEE Power System Relaying Committee Report, Summary of System Protection and Voltage Stability, Transactions on Power Delivery, Vol. 10. No. 2, April 1995.
- [8] Undervoltage Load Shedding Task Force (UVLSTF), Technical Studies Subcommittee of the WECC, Undervoltage Load Shedding Guidelines, July 1999. ■

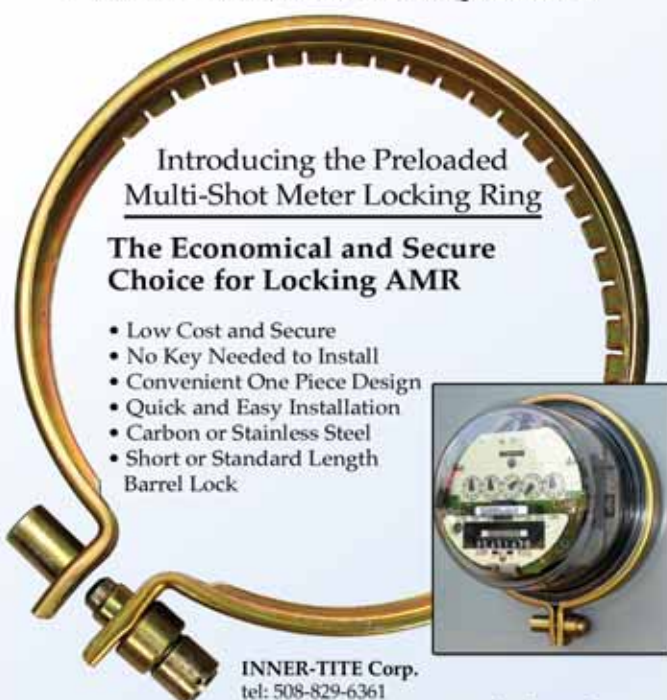
## Just because you have AMR doesn't mean you're stopping theft.

Only mechanical locking devices can  
**STOP THEFT, PREVENT METER TAMPERING, and  
PROTECT VALUABLE UTILITY EQUIPMENT.**

### Introducing the Preloaded Multi-Shot Meter Locking Ring

#### The Economical and Secure Choice for Locking AMR

- Low Cost and Secure
- No Key Needed to Install
- Convenient One Piece Design
- Quick and Easy Installation
- Carbon or Stainless Steel
- Short or Standard Length Barrel Lock



**INNER-TITE Corp.**  
tel: 508-829-6361  
[www.inner-tite.com](http://www.inner-tite.com) • [security@inner-tite.com](mailto:security@inner-tite.com)

## About the Author

Chuck Mozina is a consultant for Beckwith Electric. He is an active 25-year member of the IEEE Power System Relay Committee (PSRC) and is the past chairman of the Rotating Machinery Subcommittee. He is active in the IEEE IAS I&CPS, PCIC and PPIC committees, which address industrial system protection. He is a former U.S. representative to the CIGRE Study Committee 34 on System Protection and has chaired a CIGRE working group on generator protection. He also chaired the IEEE task force that produced the tutorial "The Protection of Synchronous Generators," which won the PSRC's 1997 Outstanding Working Group Award. Chuck is the 1993 recipient of the Power System Relay Committee's Career Service Award and he recently received the 2002 IAS I&CPS Ralph Lee Prize Paper Award. His papers have been republished in the IAS Industrial Applications Magazine.

Chuck has a Bachelor of Science in Electrical Engineering from Purdue University and is a graduate of the eight-month GE Power System Engineering Course. He has authored a number of papers and magazine articles on protective relaying. He has over 25 years of experience as a protection engineer at Centerior Energy, a major investor-owned utility in Cleveland, Ohio where he was the manager of the system protection section. In that capacity, he was responsible for the electrical protection of the company's generating plants as well as the transmission and distribution system that served over 1.2 million customers. For ten years, he was employed by Beckwith Electric, a manufacturer of protective relays, as Application Manager for Protection Products. He is also a former instructor in the Graduate School of Electrical Engineering at Cleveland State University as well as a registered Professional Engineer in Ohio.

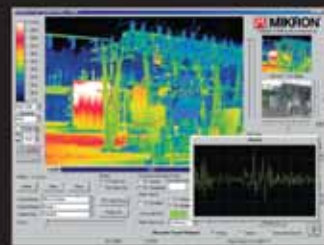
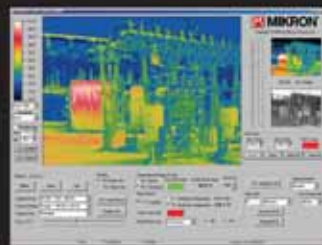


# Visual. Thermal. Ultrasound.

## Turnkey substation monitoring.

**DualVision™ Ultra 724**  
puts it all on your PC  
desktop in real time.

- Visual imaging.
- Thermal measurement.
- Thermal imaging.
- Blended infrared/visual imaging.
- Ultrasound detection.



See it all from your PC with MikroSpec™ R/T software. Thermal images and data overlaid seamlessly on visual video. Now with ultrasound detection for arcing and corona.

DualVision 724 is the first and only internet-controlled system for substation monitoring. Designed and produced by Mikron. With software and on-site commissioning by Mikron.

MikroSpec™ R/T software lets you control pan and tilt. Monitor up to 32 thermal regions of interest in the field of view. Set alarms for temperature excursions.

It even captures video and infrared feeds to a hard drive. Multiple cameras can be monitored from a single PC. And it easily integrates with SCADA systems.

**Lots of folks sell infrared cameras. Only Mikron offers turnkey monitoring solutions. Call today to see what you've been missing.**



**Mikron Infrared, Inc.** • Thermal Imaging Div.  
1101 Elevation St. Suite 3 • Hancock, MI 49930  
Tel: 906.487.6060 • Fax: 906.487.6066  
email: jon@mikroninfrared.com

©copyright 2006 Mikron Infrared

Call 1-888-506-3900 or visit us at [www.mikroninfrared.com](http://www.mikroninfrared.com)



David Phillips  
enQuesta consultant  
with Systems & Software

# Usability in Utility Customer Information Systems: The Importance of the User Experience



George Chauvin  
Director of User Interface Design  
at Systems and Software

**U**sability is a frequent buzz word in the utility software industry. Underlying the buzz is the reality that delivering on return on investment (ROI) promises is directly linked to the customer information system's (CIS) usability factor. It is estimated that up to 40 percent of CIS implementations fail, with usability and end-user acceptance being a significant factor.

## So what exactly does usability mean?

According to Webster's Dictionary, the technical definition of usability is: "The effectiveness, efficiency, and satisfaction with which users can achieve tasks in a particular environment of a product. High usability means a

system is easy to learn and remember; efficient, visually pleasing, fun and quick to recover from errors." In the context of utility CIS, when we speak of usability we are often referring to the user interface and how well the interface was designed to meet the daily work needs of the customer service representatives and other significant users.

## A CIS interface designed with the end user in mind will have the following benefits:

- 1) Substantially reduced training time
- 2) Improved end user productivity and satisfaction
- 3) Reduced data entry errors
- 4) Quicker access to customer information
- 5) Reduced staffing requirements and turnover

Historically, user interfaces were text-based. Navigation was primarily conducted by entering information in different fields and tabbing. While some electric utilities still use CIS with text-based user interfaces, the Graphical User Interface (GUI) is now much more prevalent. In recent years, the GUI has seen dramatic improvements and now offers more effective and intuitive ways to present information to the user than ever before.

When developing a user interface, the enlightened software vendor wisely employs "Best Practices" built on fundamentals that consider the following key questions:

- What are the users' needs? e.g. immediate access to certain types of account information for handling customer inquiries
- What type of work environment do the users operate in?
- What is important to the users? e.g., the elimination of repetitive data entry
- Which tasks do they perform, both frequently and infrequently?
- How are they accomplishing these tasks now?
- What will ultimately enable them to work more effectively?

## Voltage Collapse Mitigation



**M-3401 Load Shedding Relay**  
Integrated Protection System®

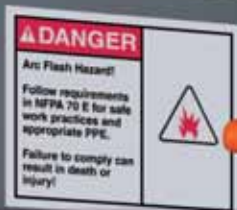
- ✓ Voltage Collapse Mitigation providing 4-step undervoltage and 4-step underfrequency load shedding functions
- ✓ Undervoltage and negative sequence overvoltage blocking for system faults provides load shedding security
- ✓ Local and remote serial communications for monitoring and control functions
- ✓ 5 programmable outputs and 2 programmable inputs

**BECKWITH ELECTRIC CO. INC.**

www.beckwithelectric.com  
marketing@beckwithelectric.com  
727-544-2326

Products defined by you, refined by Beckwith.

**NFPA 70E**  
**HRC 2 COMPLIANT**



# The NFPA 70E Market Leader

**SUPERIOR TECHNOLOGY • PROVEN PERFORMANCE • PREFERRED COMFORT**

INDURA® Ultra Soft® flame resistant fabrics are specified by brand name at global, national and local NFPA 70E compliant companies. Millions of garments made with INDURA® Ultra Soft® are in service worldwide. To find out why, visit our new expanded website [www.westexinc.com](http://www.westexinc.com).



Chicago, IL USA • 773-523-7000

[www.westexinc.com](http://www.westexinc.com)

**INDURA**  
*Ultra Soft*  
Flame Resistant Fabrics  
Protection. Comfort. Value.

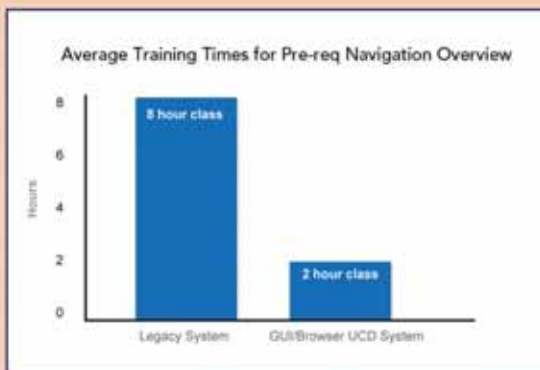
Defining these factors is critically important. To complicate matters, there will often be users from multiple departments with different information requirements. A well designed CIS should allow easy configuration of the user interface to precisely suit the information needs of these user groups.

"The user interface and theory around usability has evolved dramatically in the 30 plus years that we have been designing and deploying customer information systems", says George Chauvin, Director of User Interface Design at Systems & Software, a leading provider of customer service software for utilities. "We've designed enQuesta, our web-based billing and customer service solution, with usability being a key factor. We validate our feature and design ideas with focus groups comprised of our customers. We understand that our customer base of leading utilities demands a system that is intuitive and empowers their staff to improve customer satisfaction as well as the bottom line."

## Usability and Selecting a CIS The ROI of User-Centered Design

### Return on Investment of User-Centered Design

#### Decreased Training Costs: Case Study 1: Intro Class



#### Legacy System:

1 Instructor: 8 hours x \$60 = \$480  
 1 Student: 8 hours x \$30 = \$240  
 $\$720 \times 5/\text{month} \times 12 (\text{yr}) = 43,200$   
 $\$43,200 \times 7 \text{ years} = \mathbf{\$302,400}$

#### UCD System:

1 Instructor: 2 hours x \$60 = \$120  
 1 Student: 2 hours x \$30 = \$60  
 $\$180 \times 5/\text{month} \times 12 (\text{yr}) = 10,800$   
 $\$10,800 \times 7 \text{ years} = \mathbf{\$75,600}$

Savings over 7 Years:  
**\$226,800 (75% Savings)**

Cost comparison for one-on-one CIS introduction training over 7 years.

**High Voltage, Inc. offers the smallest, lightest, and most economical high voltage test equipment available.**

**For all your testing needs . . . HIGH VOLTAGE<sup>®</sup>**  
 VLF HIPOT INSTRUMENTS INC.



#### Very Low Frequency (VLF) AC Hipots

Used for high voltage AC field-testing of cables and generators/motors

- Models from 25 kVac – 200 kVac
- Load ratings from 0.4µF – 50 µF
- Sine wave output
- Tan delta testing option
- Years of proven design experience



#### AC Hipots

- Nearly half the size of others
- One piece cable output up to 50 kV
- Most rugged design
- Guard / Ground circuit
- Anti-static meters
- 10 kVac – 300 kVac



#### DC Hipot / Megohmmeter

Twice the power and features – smaller size – lower cost

- 10 mA continuous duty
- Built in HV megohmmeter
- +/- 1% input line regulator
- Anti-static, transit protected meters
- Durable packaging
- 37.5 kVdc – 300 kVdc



#### Thumpers & Radar

- 3 output taps
- 5/10/20 kV • 9/18/36 kV
- 1000 joules • 1600 joules
- 3200 joules
- 400 mA burn
- Built in arc reflection filter
- Radar



#### Oil Dielectric Testers

60 kV • 100 kV

#### Aerial Lift Tester

60/120 kVac@7kVA



High Voltage, Inc. can serve your needs for testing all types of substation apparatus, aerial lifts, and cable. Our VLF technology, AC and DC Hipots, Oil Testers, and Fault Locators, all offer superior design and features not found elsewhere.



31 Rt. 7A • P.O. Box 408 • Copake, NY 12516 • (518) 329-3275 • Fax: (518) 329-3271 • E-Mail: sales@hvinc.com • Web: www.hvinc.com

## Return on Investment of User-Centered Design

### Decreased Training Costs: Case Study 2: Full Course



Case study assumes new hires with no industry experience

#### Legacy System – 18 Week Program:

1 Instructor: 720 hours x \$60 = \$43,200  
5 Students: 3,600 hours x \$30 = \$108,000  
\$151,200 x 3/YR = \$ 453,600 per year  
\$453,600 x 7 years = **\$3,175,200**

#### UCD System – 2 Week Program:

1 Instructor: 80 hours x \$60 = \$4,800  
5 Students: 400 hours x \$30 = \$12,000  
\$16,800 x 3/YR = \$ 50,400  
\$50,400 x 7 years = **\$352,800**

Savings over 7 Years:  
**\$2,822,400 (89% Savings)**

Cost comparison for group CIS full course training over 7 years.


## Reduce Training Times

Surveys among electric utilities indicate that customer service staff training times can be reduced substantially with the implementation of an intuitive CIS. Recent survey reports from Systems & Software have noted cost savings ranging from 70-90 percent as a result of decreased training times. Many mid to large size utilities also have reported cost savings ranging from \$300,000 - \$3 million dollars from the reduction of training sessions.

The impact on the organization is realized in a number of positive ways. First, the accelerated learning curve allows new employees to assume their positions much more rapidly. Also, temporary staff can be brought in during times of increased call center activity and trained quickly. Finally, there is less need for follow-up training and less repeat questions to supervisors.

*"I've been involved in many CIS implementations over the years. Buy-in from end-users is critical to creating a project success story. Having screens and workflows designed from the users' perspective - clean, intuitive, and easy to navigate - makes all the difference."*

*There are tremendous benefits to the entire organization: training which formally took several months now only takes weeks, productivity increases, and customer satisfaction increases. For my company, training times have decreased 70% for the majority of new users – users who have come into our organization with no prior industry knowledge. It really has the effect of optimizing the entire organization."*  
- Anita James, Corporate Technical Consultant, Electric Power Board of Chattanooga, TN



## Well Grounded

### Portable-Protective Ground Mats

The new Hastings Ground Mats provide a method for workers to establish an equal potential zone for multiple grounding applications.

- Anti-Skid material offers application in all weather conditions
- Mats easily bond together to create the appropriate size for your work area
- Mats can be cleaned easily with hose pressure or power washer
- Mats work with your own pre-assembled grounds to create equal-potential zone



## HASTINGS

A WORLDWIDE SUPPLIER OF  
Hot Line Tools & Equipment

For more information call 269.945.9541 or visit  
[www.hfpggrounding.com](http://www.hfpggrounding.com)

"We used to have a legacy "green screen" CIS. When we cut over to the new user-centered system, the effect not only on efficiency but also on customer service representatives' morale was dramatic. It's a great feeling to know that your efforts are improving employee productivity as well as employee and customer satisfaction."

- Lori Pryce, Deputy Treasurer, Massena Electric

The following formula is commonly used for calculating the ROI achieved in productivity by reducing data entry errors. This scenario with a mid-sized utility demonstrates the savings which can be achieved.

As this example demonstrates, selecting a CIS designed with the user in mind can result in cost savings of \$546,000 over a 7-year product lifecycle. This figure does not include the ROI which can be achieved from decreased training times, user productivity advances, and staff reduction.

## Reduced Data Entry Errors

Data errors due to manual and repetitive entry have long been a major issue with enterprise software. A common practice employed by CSRs has been to write down customer information on a notepad or sticky note and enter the data at a later, more convenient time. Oftentimes, however, the CSR would forget the context in which they wrote the information and neglect to enter it in the system or it would be entered incorrectly. With quick navigation and business rules that provide immediate validation of the entered data, this is becoming less of a problem.

### ROI Calculation Example:

$$(\# \text{ of Errors}) \times (\text{Average Repair Time}) \times (\text{Employee cost}) \times (\text{Number of Employees}) = \text{Cost Savings}$$

Applied to conservative data, the potential cost savings are impressive:

$$\begin{aligned} & (2 \text{ errors a week}) \times (60 \text{ minutes to fix}) \times (\$30/\text{hour}) \times (25 \text{ employees}) \\ & = \$1500 \text{ per week} \\ & = \$78,000 \text{ per year} \end{aligned}$$

## Quicker access to customer information

Quicker access to customer information translates into improved customer satisfaction and end user productivity. For utilities that receive a large volume of calls, any productivity increase means bottom line cost savings. Information which traditionally took five or six mouse clicks to access, now only takes one or two clicks – with the user always able to return to the main screen in a single click.

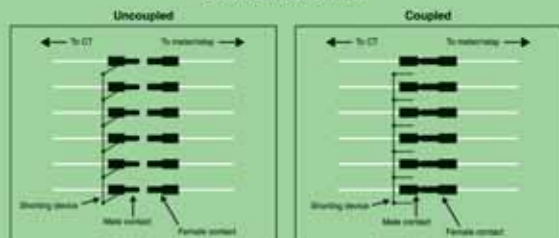
Additional benefits reported by end users are fewer steps to complete tasks, fewer screens to navigate, fewer menus (replaced by hyperlinks), more role-based information on key screens, and greater confidence in interacting with customers.

# AutoShunt

## An alternative to CT shorting blocks

The AutoShunt connector system is an innovative alternative to CT (current transformer) shorting blocks or for applications that require circuits to be shorted together. The functionality of this system hinges on a shorting device housed within the male side of the connector pair. In an uncoupled state, this metallic device makes simultaneous contact with all six male pins, shorting the circuits together (see below). As the connectors are coupled, the shorting device is displaced by the female molding. For more information, contact Positronic Industries or visit [www.connectpositronic.com](http://www.connectpositronic.com).

### Electrical schematic



**Positronic Industries**

Springfield, Missouri USA • 800.641.4054 • [info@connectpositronic.com](mailto:info@connectpositronic.com)

One-on-one customer service, detailed catalogs, easy-to-use website



Rectangular



1966 - 40th Anniversary - 2006  
[www.connectpositronic.com](http://www.connectpositronic.com)

## Reduced staffing requirements and turnover

Productivity gains from improved usability have reduced the number of customer service representatives required by some utilities. In addition, the increased job satisfaction reported by end users contributes to improved staff retention.

*"I have seen a remarkable reduction in staffing needs over the past years. With the upgrade of our CIS system, EPB has been able to reduce our Customer Relations staff with a particular emphasis on our Remittance Processing area. The savings realized can be directly attributed to usability improvements in overall workflow, navigation, and screen design."*  
- Anita James, Corporate Technical Consultant, Electric Power Board of Chattanooga, TN

## Customer Self Service

The internet has brought with it numerous possibilities of empowering customers to have direct access to their account information. Some CIS providers have developed Web-based customer self service modules that embed seamlessly in the utility's website. Customers can update personal information, including mailing address, telephone number and email address. Customers have the ability to view an up-to-the minute account summary, electricity consumption and billing history – all within a few simple mouse clicks. They can even securely pay for their services with a credit card or enroll in ACH programs. To further increase customer service and reduce overheads associated with queries, an extensive online help and Frequently Asked Questions knowledge base can also be added. Cost savings to the utility can be significant as it alleviates call center volume. Once again, usability is a key factor as there is no opportunity for training customers. Navigation and information retrieval has to be intuitive otherwise customers will give up in frustration or call the CSR for assistance, thus defeating its purpose.

## Usability – Increasingly important in CIS selection

The end user experience is increasingly viewed as critical to a successful CIS project and ongoing operations. When asked what factors influenced their CIS selection decision process, leading utilities are often quoted that usability – even more than functionality, technology, and price – is the most important deciding factor in selecting a CIS vendor. Looking at the metrics and customer quotes above, it is "easy to see" why. ■

## About the Authors

David Phillips is an enQuesta consultant with Systems & Software. David has more than a decade of experience in software design, project management and marketing. He can be contacted at

[David.Phillips@systemsandsoftware.net](mailto:David.Phillips@systemsandsoftware.net)

George Chauvin is the Director of User Interface Design at Systems and Software. George has been developing user interfaces for client and web-based applications for over 10 years. He can be contacted at

[George.C Chauvin@systemsandsoftware.net](mailto:George.C Chauvin@systemsandsoftware.net)

**HI-RISK RAINWEAR**

**FLASH FIRE AND ARC RESISTANT RAINWEAR**

from Rampro offer the protection that workers in high-risk job applications need, no matter what the job hazard. These suits, job-fit for applications ranging from electrical utility to petro chemical, are rugged and watertight. They are designed to ensure that workers are comfortable in extreme work environments.

**EXTREME  
CONDITION  
PROTECTIVE  
APPAREL**

**RANPRO**  
Rampro Inc.  
620 Ireland Road  
Simcoe, Ontario N3Y 4L6  
Tel: (519) 426-1094  
Fax: (519) 426-5313  
E-mail: [rampro@rampro.com](mailto:rampro@rampro.com)  
[www.rampro.com](http://www.rampro.com)

**New! 25 KV Line Guard**

The Polyethylene Line Guard, rated at 15.3 KV Phase to Ground and 26.4 KV Phase to Phase is incredibly light weight - less than 1/2 the weight of similar rubber hoses and is the most cost effective in the industry.

- Rated at 15.3 KV Phase to Ground and 26.4 KV Phase to Phase (Brush Contact Only)
- Light weight - less than 1/2 the weight of similar rubber hoses
- Features larger I.D. than traditional rubber hoses - 1.77" compared to 1.5"
- Meets both ASTM F712 and F968, class 3, electrical requirements
- Snap together feature with male and female connecting ends
- Available in two lengths - 5' and 6' models
- Also available in 15KV models

**HASTINGS**  
A WORLDWIDE SUPPLIER OF  
**Hot Line Tools & Equipment**  
For more information call 269.945.9541 or visit  
[www.hfgppgrounding.com](http://www.hfgppgrounding.com)



# A National Model for Siting Transmission Lines

By: Jerry Donovan, Sr. Vice President, Georgia Transmission Corporation

**T**here is a shortage of high-voltage transmission lines in the United States, and demand is expected to grow at least 20 percent in the next decade. Yet selection of transmission line routes is a growing source of public controversy and regulatory scrutiny throughout the world.

To keep pace with demand in a state where the population this decade is expected to grow by 19 percent and the energy demand is expected to grow by 39 percent, Georgia Transmission Corporation (GTC) builds about 70 miles of new transmission lines each year. GTC is an electric transmission cooperative owned by and serving 39 electric distribution cooperatives in Georgia. These member systems serve some of the fastest growing communities in the nation.

From our experience with highly organized opposition to new power lines, we concluded that there had to be a better way. The industry needed a better process for making routing decisions more consistent and defensible. So we helped produce it.

The siting methodology we use today was developed through a \$500,000 tailored collaboration project we co-funded with the Electric Power Research Institute (EPRI) and Photo Science, a Kentucky-based geospatial solutions company. GTC assigned two project managers with environmental and routing expertise, **Christy Johnson** and **Gayle Houston**, to spearhead this three-year effort. We formed a team of national experts in global information systems, environmental compliance and other

disciplines to head up the research. We also involved more than 200 participants from government agencies, utilities, environmental groups and neighborhood organizations.

The resulting EPRI-GTC Overhead Transmission Line Siting Methodology represents the most advanced, scientifically rigorous siting approach available today. EPRI published the methodology in February 2006 as a national model for siting transmission lines. In May 2006, the methodology earned GTC the National Rural Electric Cooperative Association's 2006 Cooperative Innovators Award. It has been real-world tested on more than 200 miles of transmission line projects.

## AWG AMERICAN WIRE GROUP

1926 E. Hollandale Beach Blvd  
Suite 536  
Hollywood, FL 33009  
Toll Free: (800) 342-7218  
Fax: (954) 455-6856

**OUR FOCUS IS TO SUPPLY IMMEDIATE REQUIREMENTS "LIKE A SHORT ORDER COOK"**

- Power Cables
- Bare Aluminum Conductors
- Substation Control Cables
- Service Drop Cables
- Guy Wire-static Wire
- Bare Copper Ground Wire
- Copperweld™ Alumoweld™ Cables
- OPGW & Fiber ADSS Cable

**A Powerful Solution**

**Utility & Industrial Cables**

## Why is a national model desirable?

While it is not a political panacea, it does produce more consistent, defensible and transparent siting decisions. It provides a unique mechanism for utilities to receive informed, proactive and constructive input from stakeholders, rather than just the “not-in-my-backyard” reaction that frustrates the public and utilities alike.

Equally important, an objective, consistent national model gives utilities and regulatory agencies something to hang their hat on. The Kentucky Public Service Commission (PSC) recently praised the methodology. After turning down previous requests, the Kentucky PSC approved an East Kentucky transmission line project using the EPRI-GTC Methodology.

The methodology has three main benefits. It produces siting decisions that are consistent, objective and defensible; it improves productivity and analytical capabilities; and it lowers data acquisition costs.

An analysis of eight GTC siting projects found an average data-collection cost savings of more than 60 percent. Cost savings on individual projects ranged from \$12,000 for a smaller project to more than \$130,000 for larger projects. These savings are in addition to improvements in site selection and project scheduling.

Having siting decisions backed by a more consistent rationale is by far the greatest benefit, particularly when we consider potential public, legal and legislative consequences. The EPRI-GTC Siting Methodology allows external groups to participate in the process and makes decisions by utility professionals more transparent and credible.

It uses GIS software called Corridor Analyst®. This software maps all geographic features, assigns numerical suitability values to features, assigns engineering constraints, generates corridor alternatives, automatically generates alternative corridor reports and creates reports of criteria used and values assigned.

The GIS siting model, the software tool, does not replace judgment. I’ve heard misperceptions that we have developed a computer system that will tell you where to build a transmission line if you give it starting and end points and push a button. While the system rapidly processes huge amounts of data and defines corridors and routes, professional judgment and consensus are still needed to establish the relative importance of study criteria.

Most important, final routes are still selected by staff members who have to weigh visual impacts, community concerns and construction requirements and other issues. Instead of thinking “automated decision-making,” think “data-assisted decision-making.”

## What sets the EPRI-GTC Siting Methodology apart from other GIS-based routing processes?

The utility team and external stakeholders work in collaboration to assess and rank criteria for siting. External stakeholder calibration can be done on a regional, statewide or local basis. The EPRI-GTC process standardizes alternative corridors. Unique to our approach, algorithms create different alternative corridors on

suitability maps for manmade, natural and engineering features. A forth-alternative corridor is made from a composite average.

It is a well-defined four-step process that incorporates external stakeholder input, uses GIS technology to synthesize and quantify extensive amounts of data, and ultimately relies on the expert judgment of utility professionals to select a preferred route.


## The steps are straightforward.

### Step One: Identify Macro Corridors

First, the planning staff identifies beginning and end points where a new power line is needed. Satellite imagery and data on roads, terrain and existing transmission lines are merged to form one digital map of the study area. This map is comprised of a grid of 100-square-foot cells.

Each cell on the map is ranked. Features such as residential land use, agriculture and wetlands are ranked from 1 (most suitable) to 9 (least suitable). Using the cell values, a computer algorithm calculates optimal paths for three types of suitability surfaces:

- locating with existing transmission lines
- locating with existing road rights of way
- crossing less developed areas



## Portable Grounding

### with the Truck Grounding Reel

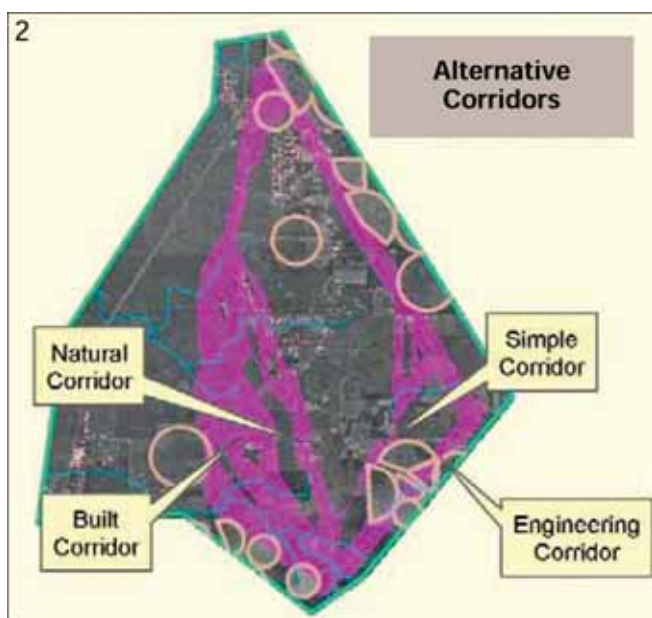
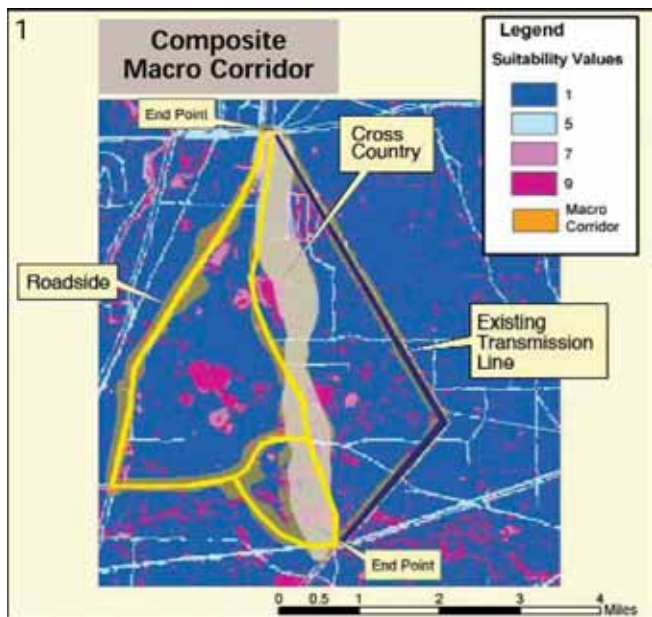
Hastings truck grounding reels offer a rugged design for long life, easy storage and quick and reliable grounding method for all types of utility vehicles.

- Enclosed rewind spring offers protection from the environment and contamination
- Grounding reels are sold complete with cable and clamp for easy installation
- Designed and tested to a max of 43,000 amps fault current

# HASTINGS

A WORLDWIDE SUPPLIER OF  
Hot Line Tools & Equipment

For more information call 269.945.9541 or visit  
[www.hfpggrounding.com](http://www.hfpggrounding.com)



The optimal paths are identified as macro corridors. Combined, the outer boundaries of the macro corridors define the study area.

#### Step Two: Identify Alternative Corridors

More detailed data (including aerial photography, detailed land use/land cover, buildings, etc.) are collected to identify alternative corridors within the macro corridors. Using suitability maps comprised of 15 square-foot cells, four types of alternative corridors are defined:

- Built environment - protecting human and cultural resource areas
- Natural environment - protecting plants, animals and aquatic resources
- Engineering requirements - maximizing co-location and minimizing cost and schedule challenges
- Simple Average - a composite of the other three

#### Collaborative rankings

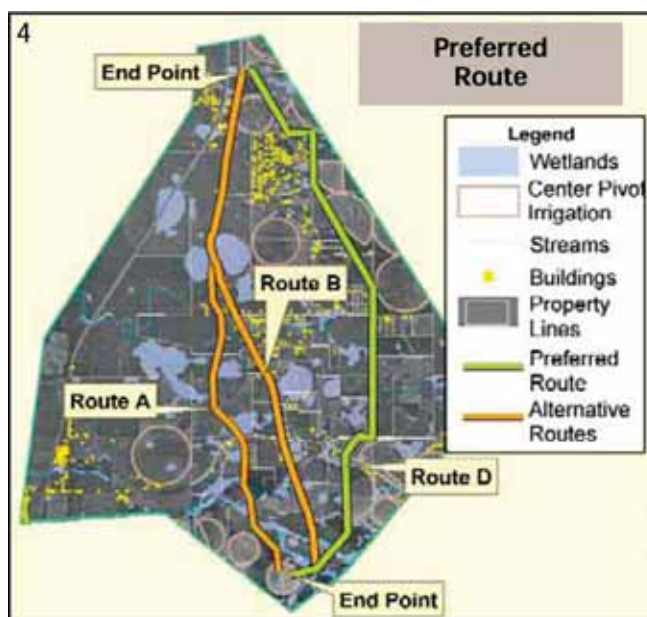
The utility team and external stakeholders set evaluation criteria and rank factors, such as housing density, wetlands and land cover. Stakeholders from government and industry and from civic, homeowner, environmental and other interest groups are invited to participate in ranking these factors.

#### Step Three: Identify Alternative Routes

Within the alternative corridors, property lines are identified and buildings, which are digitized earlier in the process, are classified by type, such as occupied house, commercial building or industrial building. Collecting detailed data after alternative corridors are identified significantly reduces data acquisition costs. In this phase, utility professionals use their expert judgment to identify alternative routes within the corridors defined by stakeholders.

#### Step Four: Select A Preferred Route

GIS tools automatically calculate a standardized list of metrics for the alternative routes. Data evaluated include cost, number of houses close to the route, acres of forest in rights of way and so forth. The alternative route evaluation tool uses data to filter out the top few routes to forward to the expert judgment phase.



# Reinventing Customer Service

When you place an order with Sabre Tubular Structures, we become part of your team. We analyze your project and offer innovative solutions. Our engineers address modifications quickly and keep your project on schedule. From proposal preparation to final delivery, we honor our commitments. Call Sabre Tubular Structures to experience real customer service.



Distribution • Transmission • Substation • Lighting Structures



A Division of Sabre Communications Corporation

1-866-254-3707 • [utilitysales@sabrecom.com](mailto:utilitysales@sabrecom.com)

Using an expert judgment tool, the utility siting team assigns relative weights to community concerns, visual concerns, special permit issues, scheduling risks and construction and maintenance accessibility. Then the top route alternatives are ranked using expert analysis to identify a preferred route.

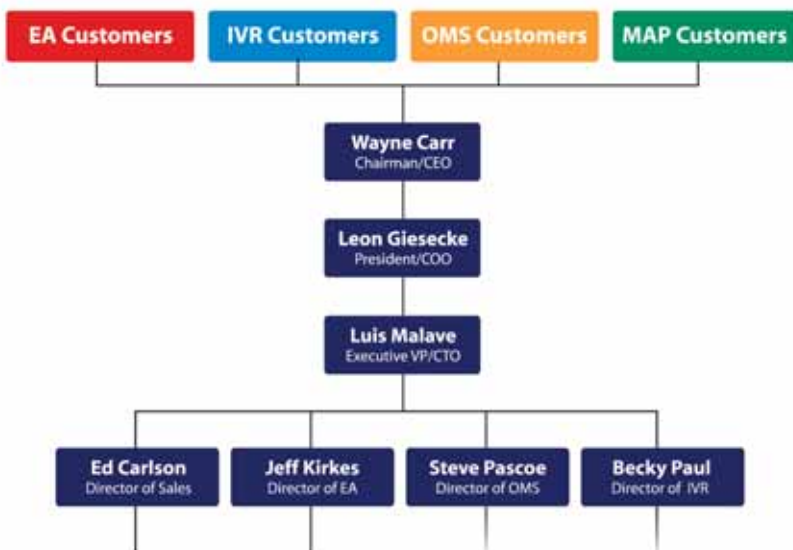
Throughout the process, GIS is a productivity tool to aid experts in the decision-making. It enables siting team members from engineering, land acquisition, environmental and other areas to use map overlays, spreadsheets, reports and graphic illustrations to make more informed, objective and defensible decisions.

Today utilities across the United States and around the world are embarking on large Etransmission constructions to keep pace with demand. We continue to face strong, organized constituencies who demand more accountability and transparency in the route-selection process. We feel that the EPRI-GTC model is part of the answer.

By adopting the siting methodology, Georgia Transmission has demonstrated its willingness to improve the way we site lines. I encourage utility managers to get a copy of the report from EPRI. It's available for free. And we hope our efforts will spur others in the industry to adopt, expand and improve the way we all determine where to locate lines. ■

For more information, please contact GTC at (770) 270-7050, or e-mail GTC at [EPRI-GTCsiting@gatrans.com](mailto:EPRI-GTCsiting@gatrans.com). Information is also available at [www.epri-gtc-siting.com](http://www.epri-gtc-siting.com).

## We know who comes first.



At Milsoft, we like to keep things in perspective.

We understand that our customers must be satisfied with the solutions we provide in order for us to be successful.

That's why we strive to provide seamlessly integrated solutions and the best customer support in the industry.

800.344.5647  
www.milsoft.com  
info@milsoft.com

**MILSOFT**  
Utility Solutions



Supported by :



Govt. of India Ministries of :-  
• Power  
• Non Conventional Energy Sources  
• Petroleum & Natural Gas  
• Coal  
• Heavy Industries  
• Planning Commission

www.indiapowershow.com

# the **TOTAL** Energy industry show

your meeting ground with  
**who's who**  
from indian power & related sectors

## 8<sup>th</sup> International Summit & Expo **POWER** INDIA 2006

12 - 14 October 2006  
Grand Hyatt Exhibition Ground,  
Santacruz (E), Mumbai, INDIA

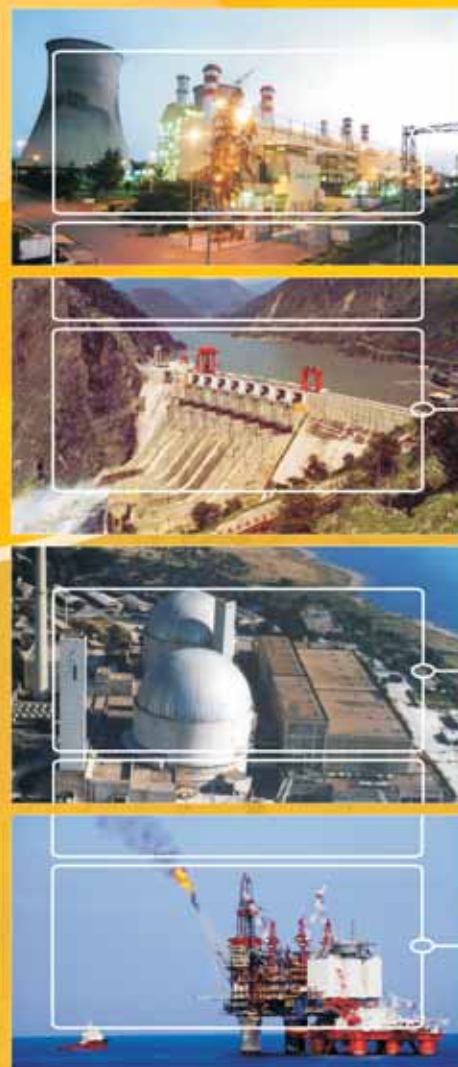
### EXHIBIT PROFILE

- Power Plant & Equipment
- Transmission & Distribution
- Electrical Equipment
- Auxiliary Equipment
- Nuclear Technology
- Stored Power / Gensets
- Alternate Sources of Energy
- Co-generation
- Environmental Management
- Technologies & Services
- Feedstock - Oil, Gas & Coal
- Financing of Power Projects
- Light Fixture & Fittings
- IT in Power Sector
- Instrumentation & Automation Systems
- Energy Efficiency & Conservation
- Engineering Consultancy
- Turnkey contracting
- State Electricity Boards
- Trade Associations
- Financial Institutions

Conference Theme :  
**"Making Power Sector  
Efficient & Sustainable"**

Special Focus :

 **Oil, Gas & Coal**



Member of



Indian  
Exhibition  
Industry  
Association

Convention Hotel



Official Journal



Organisers



Jt. Organisers  
& Exhibition Managers



WINMARK Services Pvt. Ltd.

Organisers Agent in USA & Canada : **David Jayaraj**  
Unite 25, 400 Mississauga Valley Blvd. Mississauga, ON L5A 3N6, Canada  
Tel: 905 279 9452 Email: davidjayaraj@rogers.com

Circle 102 on Reader Service Card



## About the Author

*Jerry Donovan*

*Senior Vice President, Project Services  
Georgia Transmission Corporation*

*Jerry Donovan is Senior Vice President, Project Services for Georgia Transmission Corporation. His career in the electric utility industry spans more than 20 years. His experience encompasses all phases of facility planning, design and construction of electric power facilities. Additionally, he has extensive experience in project management and in corporate strategic planning and management.*

*Early in his career he served as a Project Engineer for both substation and transmission line projects. Additional duties have provided valuable experience in customer service, facilities planning, real estate and environmental issues.*

*Since the formation of Georgia Transmission Corporation in April 1997, he has served as Manager, Construction and Project Management Program and in early 1999 assumed the role of Vice President, Project Services. He was promoted to Senior Vice President, Projects Services in May 2006. This position is directly responsible for a capital construction program that includes land acquisition, environmental compliance, design, construction and project management for the corporation's annual capital budget of more than \$100 Million in 2003.*

*Donovan earned BS degree in Electrical Engineering from Mississippi State University. He is actively involved in the Institute for Electrical and Electronics Engineers (IEEE).*

**"Gettin' er Done"  
Since 1921.**

Contact Hughes Brothers  
for the best in  
Transmission &  
Distribution Materials.

**"HUGHES"  
BROTHERS**  
WOOD STEEL  
FIBERGLASS  
TRANSMISSION & DISTRIBUTION  
MATERIAL MFRS.

**www.hughesbros.com**  
210 N. 13th Street • Seward, NE 68434 • 402.643.2991

# SUPPLIERS INDEX

## A

### A.I. ORLOFF ELECTRICAL ENGINEER

1820 E. Garry Ave., suite 117  
Santa Ana, CA, U.S.A 92705  
Tel: (949) 261-5491 • Fax: (949) 261-6541  
Web: www.members.com.aol/ocsee  
E-Mail: ocsoft@aol.com  
Contact: Alexander Orloff

### ABB INC.

3450 Harvester Rd.  
Burlington, ON, CA L7N 3W5  
Tel: (905) 333-7551 • Fax: (905) 333-7565  
Web: www.abb.ca  
See ad page 138

### ACADEMY OF INFRARED TRAINING

63 A Clipper Street  
Coquitlam, BC, CA V3K 6X2  
Tel: (604) 516-6646 • Fax: (604) 516-6674  
Web: www.infraredtraining.net  
E-Mail: airt@infraredtraining.net

### ACTIONWEAR SASKATOON INC.

114 Melville Street  
Saskatoon, Saskatchewan, CA S7J 0R1  
Tel: (306) 933-3088 • Fax: (306) 934-2922  
Web: www.actionwearinc.com  
E-Mail: actionwest@actionwearinc.com  
Contact: Joe Reaser

### AECI SPECIALTY TRANSFORMER

One Cooperative Way  
Little Rock, AR, U.S.A 72219  
Tel: (501) 570-2388 • Fax: (501) 570-2986  
Web: www.aeci.com • E-Mail: tbaldwin@aeci.com  
See ad page 77

### AERO TEC LABORATORIES INC

45 Spear Road Industrial Park  
Ramsey, NJ, U.S.A 07446  
Tel: (800) 526-5330 • Fax: (201) 825-4974  
Web: www.atlinc.com • E-Mail: atl@atlinc.com  
Contact: David Dack

### AEROTEC, LLC

560 Mitchell Field Road  
Bessemer, AL, U.S.A 35022  
Tel: (205) 428-6444 • Fax: (205) 428-2666  
Web: www.aerotecusa.com  
E-Mail: jsimmons@aerotecusa.com  
See ad page 10

### ALBER

3103 N Andrews Ave Ext  
Pompano Beach, FL, U.S.A 33064  
Tel: (954) 623-6660 • Fax: (954) 623-6671  
Web: www.alber.com  
E-Mail: jennifer.stryker@alber.com  
Contact: Jennifer Stryker

### ALIGNMENT SUPPLIES INC.

1681 Lance Pointe Rd. Suite 2  
Maumee, OH, U.S.A 43537  
Tel: (800) 997-4467 • Fax: (419) 887-5893  
Web: www.alignmentsupplies.com  
E-Mail: alignmentsupplies@solarstop.net  
Contact: Greg Knitz

### ALLEGRO

1445 Ross Avenue, Suite 2200  
Dallas, TX, U.S.A 75202  
Tel: (214) 237-8000 • Fax: (214) 526-7076  
Web: www.allegrodev.com  
E-Mail: info@allegrodev.com  
Contact: Fasih Hussain

### ALLIANCE EQUIPMENT CO.,INC

1000 North Union Ave  
Alliance, OH, U.S.A 44601  
Tel: (800) 383-2290 • Fax: (330) 821-8375  
Web: www.alliance-equipment.com  
E-Mail: debbie@alliance-equipment.com  
Contact: Debbie McLaughlin

### ALLISON SYSTEMS, INC.

W226 N781 Eastmound Drive  
Waukesha, WI, U.S.A 53186-1655  
Tel: (262) 522-9800 • Fax: (262) 522-9600  
Web: www.allisonsystems.com  
E-Mail: jmtavares@allisonsystems.com  
Contact: John Tavares

### ALTEC INDUSTRIES, INC.

210 Inverness Center Drive  
Birmingham, AL, U.S.A 35242  
Tel: (205) 991-7733 • Fax: (205) 981-2522  
Web: www.altec.com  
See ad page 27

### AMERICAN WIRE GROUP, INC.

1920 E. Hallandale Beach Blvd., Suite 638  
Hallandale, FL, U.S.A 33009  
Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
Web: www.buyawg.com • E-Mail: thhnman@aol.com  
See ad page 40

### AMETEK INC.

PO Box 1764, 37 North Valley Road Buildg. 4  
Paoli, PA, U.S.A 19301-0801  
Tel: (610) 647-2121 • Fax: (610) 296-3412  
Web: www.ametek.com

### AMETEK POWER INSTRUMENTS

225 North Union Street  
Rochester, NY, U.S.A 14605  
Tel: (585) 263-7700  
Web: www.ametekpower.com  
E-Mail: power.sales@ametek.com  
Contact: Mary Ruff

### AMETEK POWER INSTRUMENTS

4050 NW 121st Avenue  
Coral Springs, FL, U.S.A 33065-7612  
Tel: (954) 344-9822 • Fax: (954) 340-6676  
Web: www.pulsartech.com  
E-Mail: sales.pulsar@ametek.com  
Contact: John Benckenstein

### AMREL / AMERICAN RELIANCE, INC.

3445 Fletcher Ave.  
El Monte, CA, U.S.A 91731  
Tel: (626) 443-6818  
Web: www.amrel.com  
E-Mail: anthonyv@amrel.com  
Contact: Anthony Visnjec

### ANDAX ENVIRONMENTAL CORP.

613 W. Palmer Street  
Saint Marys, KS, U.S.A 66536  
Tel: (800) 999-1358 • Fax: (888) 443-4732  
Web: www.andax.com  
E-Mail: customerservice@andax.com  
Contact: Jim Bunn

### APA CABLES & NETWORKS, INC.

5480 Nathan Lane  
Plymouth, MN, U.S.A 55442  
Tel: (763) 476-6866 • Fax: (763) 475-8457  
Web: www.apacn.com • E-Mail: sales@apacn.com  
Contact: Eric Chalgren

### AQUA-TRONICS, INC.

1795 N. Yellowstone Hwy.  
Idaho Falls, ID, U.S.A 83401  
Tel: (208) 528-8875 • Fax: (208) 528-8877  
Web: www.aquatronics.com  
E-Mail: aquatron@aquatronics.com  
Contact: Merrill Haddon

### ARNCO CORPORATION

860 Garden Street  
Elyria, OH, U.S.A 44035  
Tel: (800) 321-7914 • Fax: (440) 322-1001  
Web: www.arncocorp.com  
E-Mail: info@arncocorp.com  
Contact: Dave Pampush

### ARTECHE

KM. 73.54 Antc. Carr. MEX-QRO  
Tepeji Del Rio, Tepeji Del Rio, Mexico 42850  
Tel: (52) 7737332034 • Fax: (52) 7737330366  
Web: www.artech.com  
E-Mail: oramirez@artech.com.mx  
Contact: Omar Ramirez

### ASPLUNDH BRUSH CONTROL CO.

708 Blair Mill Road  
Willow Grove, PA, U.S.A 19090  
Tel: (800) 248-8733 • Fax: (215) 784-4405  
Web: www.asplundh.com  
E-Mail: info@asplundh.com  
Contact: Larry Moore

## ASPLUNDH TREE EXPERT CO.

708 Blair Mill Road  
Willow Grove, PA, U.S.A 19090  
Tel: (800) 248-8733 • Fax: (215) 784-4405  
Web: [www.asplundh.com](http://www.asplundh.com)  
E-Mail: [info@asplundh.com](mailto:info@asplundh.com)  
Contact: Scott M. Asplundh

## ASSEMBLAGE PARO INC.

8590, Boul. Parent  
Trois-Rivières, QC, CA G9A 5E1  
Tel: (819) 375-3503 • Fax: (819) 375-1331  
Web: [www.assemblageparo.com](http://www.assemblageparo.com)  
E-Mail: [info@assemblageparo.com](mailto:info@assemblageparo.com)  
Contact: Claude Robert Jr

## ATOMIZING SYSTEMS INC.

Dalebrook Park I Hollywood Ave  
Ho-Ho-Kus, NJ, U.S.A 07423-1433  
Tel: (201) 447-1222 • (800) 265-3364  
Fax: (201) 447-6932  
Web: [www.coldfog.com](http://www.coldfog.com) • E-Mail: [info@coldfog.com](mailto:info@coldfog.com)

## AUTOMATION PRODUCTS INC. - DYNATROL® DIVISION MAXROY

3030 Maxroy  
Houston, TX, U.S.A 77008  
Tel: (713) 869-0361 • (800) 231-2067  
Fax: (713) 869-7332  
Web: [www.dynatrolusa.com](http://www.dynatrolusa.com)

## B

## BADGER METER, INC.

4545 W. Brown Deer Road P.O. Box 245036  
Milwaukee, WI, U.S.A 53224-9536  
Tel: (800) 876-3837 • Fax: (414) 371-5932  
Web: [www.badgermeter.com](http://www.badgermeter.com)  
E-Mail: [flow@badgermeter.com](mailto:flow@badgermeter.com)

## BAKER FINANCIAL RENTAL & LEASING

P.O. Box 14584  
Richmond, VA, U.S.A 23221  
Tel: (804) 672-8191 • Fax: (804) 672-8190  
Web: [www.bakerleasing.com](http://www.bakerleasing.com)

## BARCO USUAL SOLUTIONS, LLC

3059 Premiere Parkway  
Duluth, GA, U.S.A 30097  
Tel: (678) 475-8000 • Fax: (678) 475-8100  
Web: [www.barco.com](http://www.barco.com)  
See ad page 117

## BARON USA, INC.

350 Baron Circle  
Cookeville, TN, U.S.A 38501  
Tel: (931) 528-8476 • Fax: (931) 526-2219  
Web: [www.baronusa.com](http://www.baronusa.com)  
E-Mail: [derek@baronusa.com](mailto:derek@baronusa.com)  
Contact: Derek Baranowski

## BATTERIECOM

39 Gouin  
Granby, QC, CA J2G 8S9  
Tel: (514) 667-1526 • Fax: (514) 667-5944  
Web: [www.batteriecom.com](http://www.batteriecom.com)  
E-Mail: [lapointel@batteriecom.com](mailto:lapointel@batteriecom.com)  
Contact: Louis Lapointe

## BCL GLOVE LTD.

22 Caron Street, P.O. Box 158  
Saint Pacome, QC, CA G0L 3X0  
Tel: (418) 852-2098 • (888) 225-4268  
Fax: (418) 852-3330  
Web: [www.bclglove.ca](http://www.bclglove.ca) • E-Mail: [info@ganteriebcl.ca](mailto:info@ganteriebcl.ca)  
Contact: Sebastien Dube

## BECKWITH ELECTRIC COMPANY

6190-118th Ave North  
Largo, FL, U.S.A 33773-3724  
Tel: (727) 544-2326 • Fax: (727) 546-0121  
Web: [www.beckwithelectric.com](http://www.beckwithelectric.com)  
E-Mail: [marketing@beckwithelectric.com](mailto:marketing@beckwithelectric.com)  
See ad page 34

## BELYEA COMPANY, INC.

2200 Northwood Avenue  
Easton, PA, U.S.A 18045-2239  
Tel: (610) 515-8775 • Fax: (610) 515-1263  
Web: [www.belyeapower.com](http://www.belyeapower.com)  
E-Mail: [sales@belyeapower.com](mailto:sales@belyeapower.com)  
See ad page 104

## BETA ENGINEERING, LLC

4725 Hwy 28 E  
Pineville, LA, U.S.A 71360  
Tel: (318) 487-9599 • Fax: (318) 442-1741  
Web: [www.betaengineering.com](http://www.betaengineering.com)  
E-Mail: [kristine.hussong@betaengineering.com](mailto:kristine.hussong@betaengineering.com)  
Contact: Kristine Hussong

## BETE FOG NOZZLE INC.

50 Greenfield Street  
Greenfield, MA, U.S.A 01301  
Tel: (413) 772-0846 • (800) 235-1438  
Fax: (413) 772-6729  
Web: [www.bete.com](http://www.bete.com)

## BIRMINGHAM FASTENER MANUFACTURING

931 Avenue W  
Birmingham, AL, U.S.A 35214  
Tel: (800) 695-3511 • Fax: (205) 591-0244  
Web: [www.bhamfast.com](http://www.bhamfast.com)  
E-Mail: [lcook@bhamfast.com](mailto:lcook@bhamfast.com)  
Contact: Larry Cook

## BREWINGTON & COMPANY

204 Grace Street  
Mount Airy, NC, U.S.A 27030-2908  
Tel: (336) 786-9020 • Fax: (336) 786-9154  
Web: [www.fleethelp.com](http://www.fleethelp.com)  
E-Mail: [jjbrewington@earthlink.net](mailto:jjbrewington@earthlink.net)  
Contact: John Brewington, Cafm

## BRISTOL, INC., A DIVISION OF EMERSON PROCESS MANAGEMENT

1100 Buckingham St  
Watertown, CT, U.S.A 06795  
Tel: (860) 945-2200 • Fax: (860) 945-2278  
Web: [www.emersonprocess.com/bristol](http://www.emersonprocess.com/bristol)  
E-Mail: [rfindley@bristolbabcock.com](mailto:rfindley@bristolbabcock.com)  
Contact: Robert Findley

## BROCKTON EQUIPMENT - SPILLDAM INC.

P.O. Box 960  
Brockton, MA, U.S.A 02303  
Tel: (508) 583-7850 • Fax: (508) 583-5231  
Web: [www.spilldam.com](http://www.spilldam.com)  
Contact: Tim Prevost

## BROOKS UTILITY PRODUCTS GROUP

Brooks Security Products, Brooks Meter Devices  
23847, Industrial Park Drive  
Farmington Hills, MI USA, 48335-2880  
Tel: (888) 687-3008  
Web: [www.brooksutility.com](http://www.brooksutility.com)  
E-Mail: [mike.lewis@ekstrom-metering.com](mailto:mike.lewis@ekstrom-metering.com)  
Contact: Mike Lewis, Strategic Marketing Director  
See ad page 11

## BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Brooks Security Products, Brooks Meter Devices  
Brooks Ekstrom  
23847, Industrial Park Drive  
Farmington Hills, MI USA, 48335-2880  
Tel: (888) 687-3008  
Web: [www.brooksutility.com](http://www.brooksutility.com)  
E-Mail: [mike.lewis@ekstrom-metering.com](mailto:mike.lewis@ekstrom-metering.com)  
Contact: Mike Lewis, Strategic Marketing Director  
See ad page 11

## BULWARK PROTECTIVE APPAREL,

A DIVISION OF VF IMAGEWEAR INC.  
545 Marriott Dr., Nashville, TN, U.S.A 37214-0995  
Tel: (615) 565-5000 • Fax: (615) 882-2481  
Web: [www.bulwark.com](http://www.bulwark.com)  
E-Mail: [shana\\_witherow@vfc.com](mailto:shana_witherow@vfc.com)  
See ad page 3

## BURLINGTON SAFETY LABORATORY

15146 Goldenwest Circle  
Westminster, CA, U.S.A 92683  
Tel: (714) 373-2801 • Fax: (714) 373-2805  
Web: [www.burlingtonsafety.com](http://www.burlingtonsafety.com)  
E-Mail: [globe-research@juno.com](mailto:globe-research@juno.com)  
Contact: Dick Essig, Senior Analyst

## BURLINGTON SAFETY LABORATORY (NJ)

P.O. Box 1402, Burlington, NJ, U.S.A 08016  
Tel: (609) 387-3404 • Fax: (609) 387-3406  
Web: [www.burlingtonsafety.com](http://www.burlingtonsafety.com)  
E-Mail: [psenin@burlingtonsafety.com](mailto:psenin@burlingtonsafety.com)  
Contact: Peter M Senin

## BYERS ENGINEERING COMPANY

6285 Barfield Road  
Atlanta, GA, U.S.A 30328  
Tel: (404) 497-1550 • Fax: (404) 843-2000  
Web: [www.byers.com](http://www.byers.com) • E-Mail: [info@byers.com](mailto:info@byers.com)  
Contact: Angie Sheffield

## C

## C. H. GUERSENY & COMPANY

5555 N. Grand Blvd.  
Oklahoma City, OK, U.S.A 73112  
Tel: (405) 416-8100 • Fax: (405) 416-8111  
Web: [www.chguernsey.com](http://www.chguernsey.com)  
E-Mail: [justin.proctor@chguernsey.com](mailto:justin.proctor@chguernsey.com)  
Contact: Justin Proctor

## CANADIAN INSTRUMENTATION SERVICES GROUP

1091 Monaghan Road  
Peterborough, ON, CA K9J 5L4  
Tel: (800) 419-3419 • Fax: (705) 748-4559  
Web: [www.cisg.net](http://www.cisg.net)  
E-Mail: [marci.thompson@cisg.net](mailto:marci.thompson@cisg.net)  
Contact: Marci Thompson

**CANNON TECHNOLOGIES**

501 S. 55th Street  
Omaha, NE, U.S.A 68106  
Tel: (402) 498-2797 • Fax: (402) 498-4437  
Web: www.cannontech.com  
E-Mail: doug@cannontech.com  
**See ad page 9**

**CARHARTT, INC.**

5750 Mercury Drive  
Dearborn, MI, U.S.A 48126  
Tel: (800) 217-2895 • Fax: (313) 271-6428  
Web: www.carharttfr.com  
E-Mail: industrial\_sales@carhartt.com

**CARLON**

25701 Science Park Drive  
Cleveland, OH, U.S.A 44122  
Tel: 800-322-7566 • Fax: 216-831-5579  
Web: www.carlon.com  
E-Mail: lori.franceschini@carlon.com  
**Contact: Lori Franceschini**

**CARLTON INDUSTRIES INC.**

4225 West State Hwy 71 PO Box 280  
La Grange, TX, U.S.A 78945  
Tel: (800) 231-5988 • Fax: (800) 231-5934  
Web: www.carltonusa.com  
E-Mail: sales@carltonusa.com

**CATTRON GROUP INTERNATIONAL**

58 West Shenango St.  
Sharpsville, PA, U.S.A 16150  
Tel: (724) 962-3571 • Fax: (724) 962-4310  
Web: www.cattron.com • E-Mail: mail@cattron.com  
**Contact: Don Rottman**

**CGI INC. (UTILITY SOLUTIONS)**

111 Duke Street, 3rd Floor  
Montreal, QC, CA H3C 2M1  
Tel: (800) 390-3768 • Fax: (514) 228-8895  
Web: www.utilitysolutions.cgi.com  
E-Mail: info.util-sol@cgi.com  
**Contact: Heather Tracy**

**CHAPEL MAPPING**

315 Second Avenue  
Warren, PA, U.S.A 16365  
Tel: (814) 723-0861 • Fax: (814) 726-3026  
Web: www.chapelmapping.com  
E-Mail: marketing@chapelmapping.com  
**Contact: Michael Chapel**

**CHEMTON INDUSTRIES**

P.O. Box 46190  
Chicago, IL, U.S.A 60646-0190  
Tel: (773) 775-4373  
E-Mail: kareol@worldnet.att.net  
**Contact: Tony Kareotes**

**CHOICEPAY**

2448 E. 81st Street, Suite 3700  
Tulsa, OK, U.S.A 74137  
Tel: (866) 559-2455 • Fax: (918) 477-3127  
Web: www.choicepay.com  
E-Mail: jemison@choicepay.com  
**Contact: Julie Emison**

**CICAME ENERGIE INC.**

2640 Blvd. Jacques Cartier  
Longueuil, QC, CA J4N 1P8  
Tel: (450) 679-7778 • Fax: (450) 679-9432  
E-Mail: info@cicame-energie.ca

**COASTAL TRAINING TECHNOLOGIES CORP.**

500 Studio Drive  
Virginia Beach, VA, U.S.A 23452  
Tel: (757) 498-9014  
Web: www.coastal.com • E-Mail: jill@coastal.com  
**Contact: Jill Pate**

**COASTCOM**

1141 Harbor Bay Parkway  
Alameda, CA, U.S.A 94502  
Tel: (800) 433-3433 • Fax: (510) 523-6150  
Web: www.coastcom.com  
E-Mail: jide@coastcom.com  
**Contact: Jodie Ide**

**COLT ATLANTIC SERVICES**

1845 S. Lee CT. Unit C  
Buford, GA, U.S.A 30518  
Tel: (770) 831-8135 • Fax: (800) 229-2658  
Fax: (770) 831-8631  
Web: www.coltonline.com  
E-Mail: sales@coltonline.com

**COMMONWEALTH ASSOCIATES, INC.**

P.O. Box 1124  
Jackson, MI, U.S.A 49204-1124  
Tel: (517) 788-3000 • Fax: (517) 788-3003  
Web: www.cai-engr.com  
E-Mail: caiinfo@cai-engr.com  
**Contact: Dennis F. Decosta, P.e.**

**COMMSCOPE BIMETALS**

125 Commscope way  
Statesville, NC, U.S.A 28625  
Tel: (704) 883-8015 • Fax: (800) 982-1708  
Fax: (704) 832-7548  
Web: www.commscope.com  
E-Mail: bimetals@commscope.com  
**See ad page 7**

**COMSQUARED SYSTEMS, INC.**

5125 Peachtree Industrial Blvd.  
Norcross, GA, U.S.A 30092  
Tel: (800) 592-3766  
Web: www.comsquared.com  
E-Mail: sales@comsquared.com  
**Contact: Sales**

**CONVERGE, INC.**

120 Eagle Rock Ave, Suite 190  
East Hanover, NJ, U.S.A 07936  
Tel: (888) 565-5525 • Fax: (973) 884-3504  
Web: www.converge.com  
E-Mail: sales@converge.com  
**See ad page 1**

**CONCO SYSTEMS, INC.**

530 Jones Street  
Verona, PA, U.S.A 15147  
Tel: (412) 828-1166 • Fax: (412) 826-8255  
Web: www.concosystems.com  
E-Mail: info@concosystems.com  
**Contact: Sharon L. Springer**

**CONDUMEX INCORPORATED**

2590 114th Street, #200  
Grand Prairie, TX, U.S.A 75019  
Tel: (972) 352-2300 • Fax: (972) 352-2338  
Web: www.condumex.com  
E-Mail: sbauer@condumex.com  
**Contact: Jonathan Wiener**

**CONTROL CENTER LLC**

300 Sunport Lane  
Orlando, FL, U.S.A 32809  
Tel: (407) 304-5200 • Fax: (407) 304-5201  
Web: www.controlcenter.net  
E-Mail: mthomas@controlcenter.net  
**Contact: Micheal Thomas**

**CONTROL MICROSYSTEMS**

48 Steacie Drive  
Kanata, ON, CA K2K 2A9  
Tel: (613) 591-1943 • Fax: (613) 591-1022  
Web: www.controlmicrosystems.com  
E-Mail: sales@controlmicrosystems.com  
**Contact: Mr. Hany Fouda**  
**See ad page 78**

**COPPER CARE WOOD PRESERVATIVES, INC.**

P.O. Box 707  
Columbus, NE, U.S.A 68602  
Tel: (888) 817-0131 • Fax: (719) 685-3444  
Web: www.coppercare.us  
E-Mail: sales@coppercare.us  
**Contact: Randy S. Gross**

**CORNERSTONE MATERIAL HANDLING INC.**

258 Prospect Street, P.O. Box 519  
St. George, ON, CA N0E 1N0  
Tel: (519) 448-3344 • Fax: (519) 448-4514  
Web: www.cornerstonematerialhandling.com  
E-Mail: brian@cornerstonematerialhandling.com  
**Contact: Brian Huddle**

**CROSSLINK TECHNOLOGY INC.**

6380 Viscount Rd.  
Mississauga, ON, CA L4V 1H3  
Tel: (800) 563-3769 • Fax: (905) 673-0519  
Web: www.crosslinktech.com  
E-Mail: thomasonj@crosslinktech.com  
**Contact: John Thomason**

**CULTEC, INC.**

P.O. Box 280 878 Federal Road  
Brookfield, CT, U.S.A 06804  
Tel: (800) 4-CULTEC  
Web: www.cultec.com  
E-Mail: custservice@cultec.com  
**Contact: Chris Ditulio**

**D****DATA COMM FOR BUSINESS INC.**

2949 County Road 1000 East  
Dewey, IL, U.S.A 61840  
Tel: (217) 897-6600 • Fax: (217) 897-1331  
Web: www.dcbnet.com • E-Mail: info@dcbnet.com  
**See ad page 31**

**DAVEY TREE EXPERT COMPANY (THE) (KENT)**

1500 North Mantua Street  
Kent, OH, U.S.A 44240  
Tel: (330) 673-9511 • Fax: (800) 447-1667  
Fax: (330) 673-0702  
Web: www.davey.com  
E-Mail: steve.marshall@davey.com

**DAVEY TREE EXPERT COMPANY  
(THE) (LIVEMORE)**

2617 South Vasco Road  
Livemore, CA, U.S.A 94550  
Tel: (925) 443-1723 • Fax: (925) 443-1751  
Web: www.davey.com  
E-Mail: larry.abernathy@davey.com

**DAVID SPLAWN AND ASSOCIATES**

19925 Stevens Creek Blvd.  
Cupertino, CA, U.S.A 95014  
Tel: (253) 678-2661 • Fax: (206) 350-6482  
Web: www.dsacom.com • E-Mail: tim@dsacom.com  
Contact: Timothy Chen

**DENT INSTRUMENTS**

64 NW Franklin Avenue  
Bend, OR, U.S.A 97701  
Tel: (541) 388-4774 • Fax: (541) 385-9333  
Web: www.dentinstruments.com  
E-Mail: tvanslambrouck@dentinstruments.com  
Contact: Tim Van Slambrouck

**DIGITAL INSPECTIONS, A KEMA  
COMPANY**

804A Buchanan Avenue NW  
Corvallis, OR, U.S.A 97330  
Tel: 800-877-8783 x1 • Fax: (541) 758-3666  
Web: www.digitalinspections.com  
E-Mail: sales@digitalinspections.com  
Contact: John Lane or Dennis Washburn

**DIS-TRAN PACKAGED  
SUBSTATIONS, LLC**

4725 Highway 28 E.  
Pineville, LA, U.S.A 71360  
Tel: (318) 448-0274 • Fax: (318) 445-7240  
Web: www.distran.com  
See ad page 118

**DRANETZ-BMI**

1000 New Durham Road  
Edison, NJ, U.S.A 08818  
Tel: (800) 372-6832 • Fax: (732) 248-1834  
Web: dranetz-bmi.com  
E-Mail: jolechiw@wptinc.com  
Contact: Jerry Olechiw

**DREHMO GMBH ( EMG )**

Industrie Str. 1  
Wenden, NRW, Germany 57482  
Tel: +49 7634 551320 • Fax: +49 7634 5513 25  
Web: www.drehmo.com  
E-Mail: karl.natterer@t-online.de  
Contact: Karl Natterer

**DUO SUDAMERICANA SRL**

la paz 2305  
montevideo, Montevideo, Uruguay 11800  
Tel: +598 2 4008126 • Fax: +598 2 4008127  
E-Mail: jrpardo@adinet.com.uy  
Contact: Jorge Pardo

**DWYER INSTRUMENTS INC**

102 Highway 212 P.O. Box 373  
Michigan City, IN, U.S.A 46360  
Tel: (219) 879-8000 • (800) 872-9141  
Fax: (219) 872-9057  
Web: www.dwyer-inst.com  
E-Mail: lit@dwyer-inst.com  
Contact: Mark Fisher, Dir. Sales & Mktg.

**E****EBERHARD MANUFACTURING  
COMPANY**

PO Box 368012  
Cleveland, OH, U.S.A 44149-9712  
Tel: (440) 238-9720 • Fax: (440) 572-2732  
Web: www.eberhard.com  
E-Mail: poreilly@eberhard.com  
Contact: Patrick O'reilly

**ECI COMPOSITES**

1919 Lionel Bertrand Unit 107  
Boisbriand, QC, CA J7H 1N8  
Tel: (450) 430-1181 • Fax: (450) 433-1888  
Web: www.eci-co.com • E-Mail: info@eci-co.com  
Contact: Melanie Cote

**ED MALEMEZIAN CONSULTING, INC.**

8009 SW Yachtsmans drive  
Stuart, FL, U.S.A 34997  
Tel: (772) 286-9831 • Fax: (772) 286-8954  
Web: www.emalemezian.com  
E-Mail: ed@emalemezian.com  
Contact: Ed Malemezian

**EDSCO FASTENERS, INC.**

2600 North I-35  
Denton, TX, U.S.A 76201  
Tel: (940) 380-8000 • Fax: (940) 380-1118  
Web: www.edsco.com • E-Mail: dsearcy@edsco.com  
Contact: Don Searcy

**ELECTRIC POWER SYSTEMS**

146 Space Park Drive  
Nashville, TN, U.S.A 37211  
Tel: (615) 834-0999 • Fax: (615) 834-0129  
Web: www.eps-international.com  
E-Mail: l.christodoulou@eps-international.com  
Contact: Larry Christodoulou

**ELECTROMARK CO.**

6188 West Port Bay Road P.O. Box 25  
Wolcott, NY, U.S.A 14590  
Tel: (315) 594-8085 • (800) 295-8247  
Fax: (315) 594-9622  
Web: www.electromark.com  
E-Mail: customerservice@electromark.com

**ELECTROTEK CONCEPTS**

9040 Executive Park Drive, Suite 222  
Knoxville, TN, U.S.A 37923-4671  
Tel: (865) 470-9222 • Fax: (865) 470-9223  
Web: www.electrotek.com  
E-Mail: jolechiw@wptinc.com  
Contact: Jerry Olechiw

**ELSPEC**

4 HaShoham St., P.O. Box 3019,  
Caesarea Industrial Park, Israel, ISRAEL 38900  
Tel: +972-4-627-2470 • Fax: +972-4-6272465  
Web: www.elspec-ltd.com  
E-Mail: daniel@elspec-ltd.com  
Contact: Daniel Amitai

**ELSTER ELECTRICITY, LLC**

208 South Rogers Lane  
Raleigh, NC, U.S.A 27610  
Tel: (919) 212-4800 • Fax: (919) 212-4801  
Web: www.elsterelectricity.com  
Contact: Pat Corrigan, Customer Care Manager  
See ad pages 21-23-25

**E-MON**

One Oxford Valley, Suite 418  
Langhorne, PA, U.S.A 19047  
Tel: (800) 334-3666 • Fax: (215) 752-3094  
Web: www.emon.com  
E-Mail: sabbott@huntpower.com  
Contact: Suzy Abbott

**EMS INTERNATIONAL  
CONSULTING, INC.**

1180 Brookview Drive  
Athens, GA, U.S.A 30606  
Tel: (706) 549-8155  
E-Mail: maheshsambat@gmail.com  
Contact: Mahesh P. Sampat

**ENERFIN INC**

5125 JA Bombardier  
St-Hubert, QC, CA J3Z1G4  
Tel: (450) 443-3366  
Web: www.enerfin-inc.com  
E-Mail: sgelinas@enerfin-inc.com  
Contact: Sylvain Gelinat

**ENERNEX CORPORATION**

170C Market Place Boulevard  
Knoxville, TN, U.S.A 37922  
Tel: (865) 691-5540 • Fax: (865) 691-5046  
Web: www.uwig.org • E-Mail: sandy@uwig.org  
Contact: Sandy Smith

**ENERTECH CONSULTANTS**

494 Salmar Avenue Suite 200  
Campbell, CA, U.S.A 95008  
Tel: (408) 866-7266 ext:21 • Fax: (408) 866-7279  
Web: www.enertech.net  
E-Mail: etcsales@enertech.net

**ENMET CORPORATION**

P.O. Box 979  
Ann Arbor, MI, U.S.A 48106  
Tel: (734) 761-1270 • Fax: (734) 761-3220  
Web: www.enmet.com • E-Mail: info@enmet.com  
Contact: Ray Kelley

**ERICO, INC.**

34600 Solon Road  
Solon, OH, U.S.A 44139  
Tel: (800) 677-9089 • Fax: (800) 677-8131  
Web: www.erico.com • E-Mail: lmodic@erico.com  
Contact: Laurel Modic

**ERMCO**

P.O. Box 1228  
Dyersburg, TN, U.S.A 38025  
Tel: (731) 285-9121 • Fax: (731) 287-4104  
Web: www.ermco-eci.com  
E-Mail: bhadden@ermco-eci.com  
Contact: Bill Hadden

**ESA, INC.**

PO Box 2110  
Clackamas, OR, U.S.A 97015  
Tel: (503) 655-5059  
Web: www.easypower.com  
E-Mail: sales@easypower.com  
Contact: Sales Department

**ESE INC**

428 Dishman Ln  
Bowling Green, KY, U.S.A 42101  
Tel: (270) 843-1188 • Fax: (270) 842-5378  
Web: www.esebg.com • E-Mail: mike@esebg.com  
Contact: Mike Morris

**ESKRIDGE**

1900 Kansas City Road  
Olathe, KS, U.S.A. 66061  
Tel: (913) 782-1238 • Fax: (913) 782-4206  
Web: [www.eskridgeinc.com](http://www.eskridgeinc.com)  
E-Mail: [sales@eskridgeinc.com](mailto:sales@eskridgeinc.com)  
Contact: Lindsey Quinn

**ETAP/OPERATION TECHNOLOGY, INC.**

17 Goodyear, Suite 100, Irvine, CA, U.S.A. 92618  
Tel: (949) 462-0100 • Fax: (949) 462-0200  
Web: [etap.com](http://etap.com) • E-Mail: [sales@etap.com](mailto:sales@etap.com)  
Contact: Mary Beal

**ETEKLOGICS**

7537 Mentor Ave. Suite 209  
Mentor, OH, U.S.A. 44060  
Tel: (800) 452-5251 • Fax: (440) 975-0876  
Web: [www.eteklogics.com](http://www.eteklogics.com)  
E-Mail: [tbrown@eteklogics.com](mailto:tbrown@eteklogics.com)  
Contact: Tom Brown

**EUCLID GARMENT MFG. CO.**

333 Martinel Drive  
Kent, OH, U.S.A. 44240  
Tel: (330) 673-7413 • Fax: (330) 673-0228  
Web: [www.euclidgarment.com](http://www.euclidgarment.com)  
E-Mail: [hfleischmann@euclidgarment.com](mailto:hfleischmann@euclidgarment.com)  
Contact: Howard Fleischmann

**EUROBEX MANUFACTURING LTD.**

870 boul. Michele-Bohec  
Blainville, QC, CA J7C 5E2  
Tel: (800) 363-2423 • Fax: (450) 979-4626  
Web: [www.eurobex.com](http://www.eurobex.com)  
E-Mail: [info@eurobex.com](mailto:info@eurobex.com)  
Contact: Michael Macdonald

**EUROBEX USA INC**

285 Mckinstry Avenue  
Chicopee, MA, U.S.A. 01013  
Tel: (800) 363-2423 • Fax: (888) 594-9595  
Web: [www.eurobex.com](http://www.eurobex.com)  
E-Mail: [bob.dion@eurobex.com](mailto:bob.dion@eurobex.com)  
Contact: Bob Dion

**EUROPEAN TELEMETRY SERVICE LTD.**

Pramones str. 97  
Vilnius, -, Lithuania LT - 11115  
Tel: +370 650 33273  
Web: [www.connecty.lt](http://www.connecty.lt) • E-Mail: [donatas@connecty.lt](mailto:donatas@connecty.lt)  
Contact: Donatas Malinauskas

**EVEREST MANAGEMENT CONSULTANTS, INC.**

P.O. Box 1324  
Doylestown, PA, U.S.A. 18901  
Tel: (215) 534-8488  
Web: [www.everestmci.com](http://www.everestmci.com)  
E-Mail: [rick.hollenbaugh@everestmci.com](mailto:rick.hollenbaugh@everestmci.com)  
Contact: Rick Hollenbaugh

**F****FALCON ELECTRIC, INC.**

5106 Azusa Canyon Rd.  
Irwindale, CA, U.S.A. 91706  
Tel: (626) 962-7770 • Fax: (626) 962-7720  
Web: [www.falconups.com](http://www.falconups.com)  
E-Mail: [sales@falconups.com](mailto:sales@falconups.com)  
Contact: Chris Dean

**FILMAX INC**

6775 Corporate Park Dr.  
Loudon, TN, U.S.A. 37774  
Tel: (865) 408-0030 • Fax: (865) 408-0303  
Web: [www.filmaxinc.com](http://www.filmaxinc.com)  
E-Mail: [sales@filmaxinc.com](mailto:sales@filmaxinc.com)  
Contact: David M. Butler

**FILNOR INC.**

227 North Freedom Ave.  
Alliance, OH, U.S.A. 44601  
Tel: (330) 821-7667 • Fax: (330) 829-3175  
Web: [www.filnor.com](http://www.filnor.com) • E-Mail: [filnor@filnor.com](mailto:filnor@filnor.com)  
Contact: Jim Neely  
See ad page 111

**FISO TECHNOLOGIES**

500 St-Jean-Baptiste Avenue Suite 195  
Quebec, QC, CA G2E 5R9  
Tel: (418) 688-8065 • Fax: (418) 688-8067  
Web: [www.fiso.com](http://www.fiso.com) • E-Mail: [info@fiso.com](mailto:info@fiso.com)

**FLEX-CORE DIV.**

6625 McVey Blvd.  
Columbus, OH, U.S.A. 43235  
Tel: (614) 889-6152 • Fax: (614) 876-8538  
Web: [www.flex-core.com](http://www.flex-core.com)  
E-Mail: [flexcore@msn.com](mailto:flexcore@msn.com)  
Contact: Don Morlan

**FLIR SYSTEMS**

16 Esquire Road, N. Billeria, MA, U.S.A. 01862  
Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
Web: [www.flirthermography.com](http://www.flirthermography.com)  
E-Mail: [moreinfo@flir.com](mailto:moreinfo@flir.com)  
See ad pages 18-19 + Front Cover

**FLUKE**

6920 Seaway Blvd  
Everett, WA, U.S.A. 98203  
Tel: (888) 257-9897  
Web: [www.fluke.com](http://www.fluke.com) • E-Mail: [pharwood@fluke.com](mailto:pharwood@fluke.com)  
Contact: Peter Harwood-stamper

**FUSES UNLIMITED**

9248 Eton Ave  
Chatsworth, CA, U.S.A. 91311  
Tel: (818) 786-8111 • Fax: (818) 786-8222  
Web: [www.fusesunlimited.com](http://www.fusesunlimited.com)  
E-Mail: [cleiker@fusesunlimited.com](mailto:cleiker@fusesunlimited.com)  
Contact: Chris Leiker

**FWT INC.**

5750 E I-20,  
Fort Worth, TX, U.S.A. 76119  
Tel: (817) 255-2996 • Fax: (817) 255-2957  
Web: [www.fwtinc.com](http://www.fwtinc.com)

**G****GARRETTCOM INC.**

213 Hammond Ave., Fremont, CA, U.S.A. 94539  
Tel: (510) 438-9071 • Fax: (510) 438-9072  
Web: [www.garrettcom.com](http://www.garrettcom.com)  
E-Mail: [mktg@garrettcom.com](mailto:mktg@garrettcom.com)  
Contact: Jim Krachenfels  
See ad page 12

**GDS ASSOCIATES, INC.**

1850 Parkway Place Suite 800  
Marietta, GA, U.S.A. 30067  
Tel: (770) 425-8100 • Fax: (770) 426-0303  
Web: [www.gdsassociates.com](http://www.gdsassociates.com)

**GE**

4200 Wildwood Parkway  
Atlanta, GA USA, U.S.A.  
Tel: (678) 844-5476 • Fax: (770) 859-6941  
Web: [www.ge.com](http://www.ge.com)

**GE INPSECTION TECHNOLOGIES**

4619 Jordan Road  
Skaneateles Falls, NY, U.S.A. 13153  
Tel: (888) 332-3848 • Fax: (973) 448-0044  
Web: [www.ge.com/inspectiontechnologies](http://www.ge.com/inspectiontechnologies)  
E-Mail: [info@ge.com](mailto:info@ge.com)  
Contact: Julie Whitman

**GENERAL CABLE COMPANY**

590 Barmac Drive  
North York, ON, CA M9L 2X8  
Tel: (416) 791-2430 • Fax: (416) 756-1713  
Web: [www.generalcable.com](http://www.generalcable.com)  
E-Mail: [tsingh@generalcable.com](mailto:tsingh@generalcable.com)  
Contact: Tarlochan Singh

**GENETEC INC**

2280 Alfred-Nobel Boulevard, suite 400  
Saint-Laurent, QC, CA H4S 2A4  
Tel: (514) 332-4000 • Fax: (514) 332-1692  
Web: [www.genetec.com](http://www.genetec.com)  
E-Mail: [ederi@genetec.com](mailto:ederi@genetec.com)  
Contact: Erica Deri

**GENTE CA**

Av Buen Pastor c/c Vargas Edif Alba Piso 1 Local 1A  
Boleita Norte  
Caracas, DC, Venezuela 1070  
Tel: 58-212-237.0711 • Fax: 58-212-235.2497  
E-Mail: [jperez@genteca.com.ve](mailto:jperez@genteca.com.ve)  
Contact: Jose R Perez

**GEORGE M. FRASER LTD (LACHUTE)**

CP 55  
Lachute, QC, CA J8H 3X2  
Tel: (450) 562-0771 • Fax: (450) 562-0441  
Web: [www.gmfraser.com](http://www.gmfraser.com)  
E-Mail: [ralph@gmfraser.com](mailto:ralph@gmfraser.com)

**GEORGE M. FRASER LTD (PICKERING)**

900 McKay Suite 3  
Pickering, ON, CA L1W 3X8  
Tel: (905) 428-8878 • Fax: (905) 428-3772  
Web: [www.gmfraser.com](http://www.gmfraser.com)  
E-Mail: [sales@gmfraser.com](mailto:sales@gmfraser.com)

**GEORGIA UNDERGROUND AND SUPPLY, INC.**

5158-G Kennedy Rd.  
Forest Park, GA, U.S.A. 30297  
Tel: (800) 245-8339 • Fax: (404) 675-7998  
Web: [www.georgiaunderground.com](http://www.georgiaunderground.com)  
E-Mail: [sales@georgiaunderground.com](mailto:sales@georgiaunderground.com)  
Contact: Sales

**GEOSPATIAL EXPERTS**

12000 N Washington STE 385  
Thornton, CO, U.S.A. 80241  
Tel: (303) 255-2908  
Web: [www.geospatialexperts.com](http://www.geospatialexperts.com)  
E-Mail: [linda@geospatialexperts.com](mailto:linda@geospatialexperts.com)  
Contact: Linda Bobbitt

## GLOBE RESEARCH ASSOCIATES

6626 Duke Street  
Riverside, CA, U.S.A 92506  
Tel: (951) 684-4443  
E-Mail: globe-research@juno.com  
Contact: Dick Essig, Senior Analyst

## GOLIGHT INC

37146 Old Highway 17  
Culbertson, NE, U.S.A 69024  
Tel: (308) 278-3131 • Fax: (308) 278-2525  
Web: www.golight.com  
E-Mail: cbunstock@golight.com

## GRANSFORS BRUKS (CANADA) INC.

940 Sheldon Court  
Burlington, ON, CA L7L 5K6  
Tel: (905) 681-3993 • (866) 922-2978  
Fax: (905) 681-0391  
Web: www.gransfors.ca  
E-Mail: canada@gransfors.ca  
Contact: Annika Hiding, Pres.

## GREENBERG ENGINEERING CO.

PO Box 451  
Bala Cynwyd, PA, U.S.A 19004-0451  
Tel: (610) 660-0655  
E-Mail: billg19004@yahoo.com  
Contact: William Greenberg

## GREEN-PORT ENVIRONMENTAL MANAGERS (ONTARIO)

4 Melanie Drive Unit 23  
Brampton, ON, CA L6T 4L1  
Tel: (905) 799-2777 • Fax: (905) 458-1702  
Web: www.green-port.com  
E-Mail: mitt@green-port.com

## H

## H&L INSTRUMENTS

PO Box 580 - 34 Post Road  
North Hampton, NH, U.S.A 03862-0580  
Tel: (603) 964-1818 • Fax: (603) 964-8881  
Web: www.hlinstruments.com  
E-Mail: jlandman@hlinstruments.com  
Contact: Jennifer Landman

## HAMBY YOUNG

1245 Danner Drive  
Aurora, OH, U.S.A 44202  
Tel: (330) 562-8444 • (800) 726-8444  
Fax: (330) 562-4018  
Web: www.hambyyoung.com  
E-Mail: rjhamby@hambyyoung.com  
Contact: Russ Hamby  
See ad page 119

## HAMMOND POWER SOLUTIONS INC.

595 Southgate Drive  
Guelph, ON, CA N1G 3W6  
Tel: (519) 822-2441 • Fax: (519) 822-9701  
Web: www.hammondpowersolutions.com  
E-Mail: pbromby@hammondpowersolutions.com  
Contact: Paul Bromby

## HASTINGS FIBERGLASS PRODUCTS INC.

770 Cook Road P.O. Box 218  
Hastings, MI, U.S.A 49058-0218  
Tel: (269) 945-9541 • Fax: (269) 945-4623  
Web: www.hfgp.com • E-Mail: hasting@hfgp.com  
Contact: David Baum  
See ad pages 37-39-41

## HD ELECTRIC COMPANY

1475 Lakeside Drive  
Waukegan, IL, U.S.A 60085  
Tel: (847) 473-4980 • Fax: (847) 473-4981  
Web: www.hdelectriccompany.com  
E-Mail: khuggins@hdelectriccompany.com  
Contact: Kimberly Huggins, Marketing Mgr.

## HERCULES INDUSTRIES INC.

P.O. Box 197  
Prospect, OH, U.S.A 43342  
Tel: (800) 345-2590 • Fax: (740) 494-2274  
Web: www.herculock.com  
E-Mail: dhook@herculock.com  
Contact: Dave Hook

## HIGH ENERGY CONSULTING, INC.

7616 Currell Blvd. #200  
Saint Paul, MN, U.S.A 55125  
Tel: (651) 264-3150  
Web: www.highenergyconsulting.com  
E-Mail: mike@highenergyconsulting.com  
Contact: Mike Sanislo

## HIGH VOLTAGE INC.

31 Rt. 7A - P.O. Box 408, Copake, NY, U.S.A 12516  
Tel: (518) 329-3275 • Fax: (518) 329-3271  
Web: www.hvinc.com • E-Mail: sales@hvinc.com  
Contact: Steve Pechel, Sales Mgr.  
See ad page 36

## HIGH VOLTAGE SUPPLY

Division of Waukesha Electric Systems  
9011 Governors Row, Dallas, TX, U.S.A 75247  
Tel: (214) 637-4434 • (800) 338-5526  
Fax: (214) 637-1157  
Web: www.highvoltagesupply.com  
E-Mail: hvsinfo@waukesha.spx.com

## HIGHLINE PRODUCTS

800 South Street Suite 255  
Watermill Center Waltham, MA, U.S.A 02453  
Tel: (781) 736-0002 • Fax: (781) 647-3607  
Web: www.highlineproducts.com  
E-Mail: jsullivan@highlineproducts.com  
Contact: John Sullivan

## HIGHWAY SAFETY CORP.

PO Box 358  
Glastonbury, CT, U.S.A 06070  
Tel: (800) 544-4929 • Fax: (860) 633-2274  
Web: www.highwaysafety.net  
E-Mail: fluszczy@highwaysafety.net  
Contact: Frank Luszczy

## HIPOTRONICS INC.

P.O. Box 414, 1650 Route 22 North  
Brewster, NY, U.S.A 10509  
Tel: (845) 279-3644 • Fax: (845) 279-2467  
Web: www.hipotronics.com  
E-Mail: sales@hipotronics.com  
See ad page 127

## HITEC CORPORATION

537 Great Road  
Littleton, MA, U.S.A 01460  
Tel: (978) 742-9032 • Fax: (978) 742-9033  
Web: www.hitecorp.com  
E-Mail: sales@hitecorp.com  
Contact: Nicole Mcinnis

## HOLOPHANE

214 Oakwood Avenue, Newark, OH, U.S.A 43055  
Tel: (740) 345-9631 • Fax: (740) 349-4426  
Web: www.holophane.com  
E-Mail: vkniffin@holophane.com

## HORIBA INSTRUMENTS, INC.

17671 Armstrong Ave.  
Irvine, CA, U.S.A 92614  
Tel: (949) 250-4811 • Fax: (949) 250-0924  
Web: www.horiba.com  
E-Mail: bernadette.shahin@horiba.com  
Contact: Bernadette Shahin

## HORIZONS COMMUNICATIONS

18531 S Miles Rd  
Cleveland, OH, U.S.A 44128  
Tel: (216) 714-0031 • Fax: (216) 475-6507  
Web: e-mail: joebru@horinc.com

## HUBBELL CANADA LP

870 Brock Rd. South  
Pickering, ON, CA L1W 1Z8  
Tel: (905) 839-1138 • Fax: (905) 831-6353  
Web: www.hubbellpowersystems.ca  
E-Mail: infohps@hubbell-canada.com

## HUGHES BROTHERS INC.

210 North 13th Street  
Seward, NE, U.S.A 68434  
Tel: (402) 643-2991 • Fax: (402) 643-2149  
Web: www.hughesbros.com  
E-Mail: tim@hughesbros.com  
Contact: Tim Hughes  
See ad page 46

## HUNT POWER L.P.

1445 Ross At Field Suite 1500  
Dallas, TX, U.S.A 75202  
Tel: (866) 944-4868 • Fax: (214) 978-8949  
Web: www.huntpower.com

## HUNT TECHNOLOGIES INC.

6436 County Road 11  
Pequot Lakes, MN, U.S.A 56472  
Tel: (218) 562-4877 • (800) 828-4055  
Fax: (218) 562-4878  
Web: www.turtletech.com  
E-Mail: sales@turtletech.com  
See ad Inside Back Cover

## I

## ICB PORCELAIN INSULATORS, INC.

4825 S.W. 75th Avenue  
Miami, FL, U.S.A 33155  
Tel: (305) 265-3575 • Fax: (305) 263-6575  
Web: icbsales@gwmiami.com  
E-Mail: reneken@comcast.net  
Contact: Rene Avery

## IMCORP-POWER CABLE RELIABILITY

179 Middle Turnpike,  
Storrs, CT, U.S.A 06268  
Tel: (860) 427-7620  
Web: www.imcorpotech.com  
E-Mail: sales@imcorpotech.com  
Contact: Benjamin Lanz

## IMMEDIATE RESPONSE SPILL TECHNOLOGIES, LLC

11760 Commonwealth Drive  
Louisville, KY, U.S.A 40299  
Tel: (502) 267-0101 • (866) CIAGENT  
Fax: (502) 267-0181  
Web: www.ciagent.com • E-Mail: terry@ciagent.com

**IMPACT POWER, INC.**

18218 East McDermott, Suite E  
Irvine, CA, U.S.A 92614  
Tel: (949) 477-9198 • Fax: (949) 477-9195  
Web: www.impactpwr.com  
E-Mail: sales@impactpwr.com  
Contact: Robert Sung

**IMPL0 TECHNOLOGIES**

7030 Woodbine Ave. Suite 500  
Markham, ON, CA L3R 6G2  
Tel: (905) 513-9084 • Fax: (905) 513-9083  
Web: www.implotech.ca • E-Mail: info@implotech.ca

**INCON POWER RELIABILITY PRODUCTS**

P.O. Box 638, 92 Industrial Park Road  
Saco, ME, U.S.A 04072  
Tel: (207) 283-0156 • (800) 872-3455  
Fax: (207) 283-0158  
Web: www.incon.com • E-Mail: twagner@incon.com

**INDECK POWER EQUIPMENT COMPANY**

1111 South Willis Avenue  
Wheeling, IL, U.S.A 60090  
Tel: (847) 541-8300 • (800) 446-3325  
Fax: (847) 541-9984  
Web: www.indeck.com  
E-Mail: info@indeck-power.com  
See ad pages 24 and 68

**INDUCTIVE COMPONENTS MFG. INC.**

P.O. Box 188  
Amelia, OH, U.S.A 45102  
Tel: (513) 752-4731 • Fax: (513) 752-4738  
Web: www.icmlinc.com

**INDUS INTERNATIONAL**

3301 Windy Ridge Parkway  
Atlanta, GA, U.S.A 30339  
Tel: (770) 952-8444 • Fax: (770) 955-2977  
Web: www.indus.com • E-Mail: sales@indus.com

**INELAP**

Calle 2 No. 7, Fracc. Alce Blanco  
Estado De Mexico, Naucalpan, Mexico 53370  
Tel: 52 555 093-2242 • Fax: 52 555 093-2242  
Web: www.inelap.com  
E-Mail: oramirez@arteche.com.mx  
Contact: Omar Ramirez

**INFONETRIX**

P.O. Box 640698  
Kenner, LA, U.S.A 70064  
Tel: (504) 466-2220 • Fax: (504) 466-2230  
Web: www.infonetrix.com

**INFOWAVE SOFTWARE**

4664 Lougheed Highway  
Burnaby, British Columbia, CA V5C 5T5  
Tel: 604-473-3600 or 1-800-INFOWAVE (463-6928)  
• Fax: (604) 473-3699  
Web: www.infowave.com  
E-Mail: info@infowave.com  
Contact: Sharon Buchman

**INGINSEL-TECH**

Av. San Roque 257  
Queretaro, Queretaro, MEXICO 76150  
Tel: (442)2104138 • Fax: (442)2104138  
E-Mail: ingdha@hotmail.com  
Contact: Daniel Hernandez Arriaga

**INNER-TITE CORP.**

110 Industrial Drive  
Holden, MA, U.S.A 01520  
Tel: (508) 829-6361 • Fax: (508) 829-4469  
Web: www.inner-tite.com  
E-Mail: security@inner-tite.com  
See ad page 32

**INSTITUTE OF INFRARED THERMOGRAPHY**

3495 Overlander Drive  
Kamloops, British Columbia, CA V2B6X6  
Tel: (250) 579-7677 • Fax: (250) 579-9603  
Web: www.infraredinstitute.com  
E-Mail: infrared@infraredinstitute.com  
Contact: Isabelle Dubois

**INSULBOOT A DIV. OF PLASTIC DIP MOLDINGS**

PO Box 450  
Plumsteadville, PA, U.S.A 18949  
Tel: (215) 766-2020 • Fax: (215) 766-2222  
Web: www.insulboot.com & www.wlop.us  
E-Mail: sales@insulboot.com

**INTEGRATED ENGINEERING SOFTWARE**

220 - 1821 Wellington Avenue  
Winnipeg, Manitoba, CA R3H 0G4  
Tel: (204) 632-5636 • Fax: (204) 633-7780  
Web: www.integratedsoft.com  
E-Mail: kmedwid@integratedsoft.com  
Contact: Karen Medwid

**INTERGRAPH CORP**

One Madison Industrial Park  
Huntsville, AL, U.S.A 35894  
Tel: (256) 730-8558 • Fax: (256) 730-8995  
Web: www.intergraph.com  
E-Mail: jpaddock@ingr.com

**INTERPRO CONSULTANTS INC.**

6555 Métropolitain Blvd. East Suite 407  
Montreal, QC, CA H1P 3H3  
Tel: (514) 321-4505 • Fax: (514) 321-0339  
Web: www.interproconsulting.ca

**ITEC**

P.O. Box 23088  
Charlotte, NC, U.S.A 28227-0272  
Tel: (704) 282-4331 • Fax: (704) 283-3017  
Web: www.itec-ctvt.com  
E-Mail: sales@itec-ctvt.com

**ITRON**

2818 N. Sullivan Road  
Spokane, WA, U.S.A 99216  
Tel: (800) 635-5461 • Fax: (509) 891-3932  
Web: www.itron.com  
E-Mail: tim.wolf@itron.com  
Contact: Tim Wolf, Mktg. Communications Mgr.  
See ad Inside Front Cover

**J & Y ENGINEERING SERVICES INC.**

6777-B Engle Road  
Cleveland, OH, U.S.A 44130  
Tel: (440) 891-1130 • Fax: (440) 891-1131  
Web: www.jyengineering.com  
E-Mail: gjohnston@jyengineering.com  
Contact: Gary A. Johnston Pe

**JEFORZ SOFTWARE INC.**

1190 Melville Street suite 650  
Vancouver, British Columbia, CA V6E 3W1  
Tel: 604-629-0211 • Fax: 604-629-0218  
Web: www.jeforz.com • E-Mail: nami@jeforz.com  
Contact: Nami Maruyama

**JORDAN TRANSFORMER**

1000 Syndicate St.  
Jordan, MN, U.S.A 55352  
Tel: (952) 492-2720 • Fax: (952) 492-2796  
Web: www.jordantransformer.com  
E-Mail: johnl@jordantransformer.com  
Contact: John Leemhuis

**JOSLYN HI-VOLTAGE**

4000 E. 116th St.  
Cleveland, OH, U.S.A 44105  
Tel: (216) 271-6600 • Fax: (216) 341-3615  
Web: www.joslynhv.com  
E-Mail: info@joslynhv.com  
Contact: Patty Kozlow

**K****K & H INDUSTRIES INC.**

8656 Delameter Road  
Angola, NY, U.S.A 14006  
Tel: (716) 549-0135 • Fax: (716) 549-2725  
Web: www.khindustries.com  
E-Mail: khind@msn.com

**KELMAN**

4147 N. Ravenswood Ave.  
Chicago, IL, U.S.A 60613  
Tel: (773) 944-0693 • Fax: (773) 944-0690  
Web: www.kelman.co.uk  
See ad page 5

**KEMA INC.**

67 South Bedford Street Suite 201 East,  
Burlington, MA, U.S.A 01803-5177  
Tel: (781) 273-5700 • Fax: (781) 229-4867  
Web: www.kema.com  
E-Mail: info@kemaconsulting.com  
Contact: Kristen Brewitt

**KEMA INC. (ENGLEWOOD)**

10333 East Dry Creek Road, Suite 200  
Englewood, CO, U.S.A 80112  
Tel: (303) 708-9355 • Fax: (303) 708-9356  
Web: www.kema.com  
E-Mail: info@kemaconsulting.com

**KERSHAW**

P.O. Box 244100  
Montgomery, AL, U.S.A 36124  
Tel: (334) 387-9100 • Fax: (334) 387-9375  
Web: kershawusa.com  
E-Mail: mbalkom@progressrail.com  
Contact: Mike Balkom

**KINETRICS**

800 Kipling avenue  
Toronto, ON, CA M8Z 6C4  
Tel: (416) 207-6000 • Fax: (416) 207-6532  
Web: www.kinetrics.com  
E-Mail: cheryl.tasker-shaw@kinetrics.com

**J**

## KIRK KEY INTERLOCK COMPANY

211 Wetmore Ave SE  
Massillon, OH, U.S.A 44646  
Tel: (330) 833-8223 • Fax: (330) 833-1528  
Web: [www.kirkkey.com](http://www.kirkkey.com) • E-Mail: [sean@kirkkey.com](mailto:sean@kirkkey.com)  
Contact: Sean McGuinness

## KLEIN TOOLS

P.O. Box 599033  
Chicago, IL, U.S.A 60659  
Tel: (800) 553-4676 • Fax: (847) 745-4612  
Web: [www.kleintools.com](http://www.kleintools.com)  
E-Mail: [marketing@kleintools.com](mailto:marketing@kleintools.com)  
Contact: Jody Mckeown

## K-LINE INSULATORS LTD (ROCHESTER)

200 Buell Road C-11  
Rochester, NY, CA 14624  
Tel: (585) 235-2870 • Fax: (585) 235-3292  
Web: [www.k-line.net](http://www.k-line.net) • E-Mail: [k-lineusa@k-line.net](mailto:k-lineusa@k-line.net)

## K-LINE INSULATORS LTD (TORONTO)

50 Passmore Avenue  
Toronto, ON, CA M1V 4T1  
Tel: (416) 292-2008 • Fax: (416) 292-2094  
Web: [www.k-line.net](http://www.k-line.net) • E-Mail: [insulators@k-line.net](mailto:insulators@k-line.net)

## KNAACK MANUFACTURING COMPANY

420 E. Terra Cotta Ave.  
Crystal Lake, IL, U.S.A 60014  
Tel: (815) 459-6093 • Fax: (800) 334-2981  
Web: [www.knaack.com](http://www.knaack.com) • E-Mail: [info@knaack.com](mailto:info@knaack.com)  
Contact: Chad Severson

## KOONTZ WAGNER

3801 Voorde Drive  
South Bend, IN, U.S.A 46628  
Tel: (574) 232-2051 • (800) 345-2051  
Fax: (574) 288-8510  
Web: [www.koontz-wagner.com](http://www.koontz-wagner.com)

## KRENZ & COMPANY INCORPORATED

P.O. Box 187  
Germantown, WI, U.S.A 53022  
Tel: (262) 255-2310 • Fax: (262) 255-2904  
Web: [www.krenzvent.com](http://www.krenzvent.com)  
E-Mail: [krenz@krenzvent.com](mailto:krenz@krenzvent.com)

## L

## L.P. ROYER INC.

712, rue Principale  
Lac-Drolet, QC, CA G0Y 1C0  
Tel: (800) 567-7693 • Fax: (819) 549-2584  
Web: [www.lproyer.com](http://www.lproyer.com) • E-Mail: [client@lproyer.com](mailto:client@lproyer.com)  
Contact: Nathalie Lacroix

## LA MARCHE MANUFACTURING

106 Bradrock Drive  
DesPlaines, IL, U.S.A 60018  
Tel: (847) 299-1188 • Fax: (847) 299-3061  
Web: [www.lamarchemfg.com](http://www.lamarchemfg.com)

## LAMBDA COMMUNICATIONS LTD

PO Box 31045  
Christchurch, New Zealand, New Zealand 8254  
Tel: +64 3 312 0023 • Fax: +64 3 312 0043  
Web: [www.lambda.co.nz](http://www.lambda.co.nz) • E-Mail: [info@lambda.co.nz](mailto:info@lambda.co.nz)  
Contact: Angus Henderson

## LANDIS+GYR INC.

2800 Duncan Road  
Lafayette, IN, U.S.A 47904-5012  
Tel: (765) 742-1001 • Fax: (765) 429-2667  
Web: [www.landisgyr.us](http://www.landisgyr.us)  
E-Mail: [salesinfo@us.landisgyr.com](mailto:salesinfo@us.landisgyr.com)  
Contact: Sales Information

## LAPP INSULATORS LLC

130 Gilbert Street  
LeRoy, NY, U.S.A 14482  
Tel: (585) 768-6221 • Fax: (585) 768-6219  
Web: [www.lappinsulator.com](http://www.lappinsulator.com)  
E-Mail: [mabaily@lappinsulator.com](mailto:mabaily@lappinsulator.com)  
Contact: Matt Bailey

## LASER MAP IMAGE PLUS / GPR

16 Sixth Line Road  
Bristol, QC, CA J0X 1G0  
Tel: (819) 647-3085  
Web: [www.lasermapping.com](http://www.lasermapping.com)  
E-Mail: [bobf@lasermapping.com](mailto:bobf@lasermapping.com)

## LEHMAN ENGINEERING COMPANY

P. O. Box 29160  
Richmond, VA, U.S.A 23242-0160  
Tel: (804) 360-9288  
Web: [www.lehmanengineering.com](http://www.lehmanengineering.com)  
E-Mail: [info@lehmanengineering.com](mailto:info@lehmanengineering.com)  
Contact: Lo Lehman

## LEM PRODUCTS INC.

PO Box 190, 4089 Landisville Road  
Doylestown, PA, U.S.A 18901  
Tel: (215) 348-9900 • Fax: (215) 348-1414  
Web: [www.lemproductsinc.com](http://www.lemproductsinc.com)  
E-Mail: [lfierle@lemproductsinc.com](mailto:lfierle@lemproductsinc.com)  
Contact: Laynee Fierle

## LIGHT BRIGADE INC., THE

837 Industry Drive  
Tukwila, WA, U.S.A 98188  
Tel: (206) 575-0404 • Fax: (206) 575-0405  
Web: [www.lightbrigade.com](http://www.lightbrigade.com)  
E-Mail: [kimberly@lightbrigade.com](mailto:kimberly@lightbrigade.com)  
Contact: Kimberly Blatter

## LIMCO

5304 S Lawton Avenue  
Tulsa, OK, U.S.A 74107  
Tel: (918) 445-4300 • Fax: (918) 445-2210  
Web: [www.limcoairepair.com](http://www.limcoairepair.com)  
E-Mail: [katiep@limcoairepair.com](mailto:katiep@limcoairepair.com)  
Contact: Katie Phelan

## LOCWELD INC.

50 Iberville  
Candiac, QC, CA J5R 1J5  
Tel: (450) 659-9661 • Fax: (450) 444-3111  
Web: [www.locweld.com](http://www.locweld.com) • E-Mail: [info@locweld.com](mailto:info@locweld.com)

## LODESTAR CORPORATION

Two Corporation Way, Centennial Park Suite 100  
Peabody, MA, U.S.A 01960  
Tel: (713) 292-2500 • (888) 225-1293  
Fax: (713) 292-2550  
Web: [www.lodestarcorp.com](http://www.lodestarcorp.com)  
E-Mail: [glenn\\_macrill@lodestarcorp.com](mailto:glenn_macrill@lodestarcorp.com)

## LOEGERING

15514 37th Street SE  
Casseltown, ND, U.S.A 58012  
Tel: (800) 373-5441 • Fax: (701) 347-4323  
Web: [www.loegering.com](http://www.loegering.com)  
E-Mail: [beckyf@loegering.com](mailto:beckyf@loegering.com)  
Contact: Becky Fix

## LOGICA CMG

10375 Richmond Avenue Suite 1000  
Houston, TX, U.S.A 77042  
Tel: (713) 954-7000 • Fax: (713) 785-0880  
Web: [www.logicacmg.com/us](http://www.logicacmg.com/us)  
E-Mail: [sue.wilson@logicacmg.com](mailto:sue.wilson@logicacmg.com)  
Contact: Sue Wilson

## LUXTRON

3033 Scott Blvd.  
Santa Clara, CA, U.S.A 95054  
Tel: (408) 727-1600 • Fax: (408) 727-1677  
Web: [www.luxtron.com](http://www.luxtron.com) • E-Mail: [info@luxtron.com](mailto:info@luxtron.com)

## M

## MAGELLAN AEROSPACE CORPORATION (FORMERLY ORENDA AEROSPACE)

3160 Derry Road East  
Mississauga, ON, CA L4T 1A9  
Tel: (905) 673-3250 • Fax: (905) 678-1538  
Web: [www.magellanroi.com](http://www.magellanroi.com)  
E-Mail: [information@orenda.com](mailto:information@orenda.com)

## MAGNETIC SHIELD CORP.

740 N Thomas Dr.  
Bensenville, IL, U.S.A 60106  
Tel: (630) 766-7800 • (800) 304-5665  
Fax: (630) 766-2813  
Web: [www.magnetic-shield.com](http://www.magnetic-shield.com)  
E-Mail: [rdasso@magnetic-shield.com](mailto:rdasso@magnetic-shield.com)  
Contact: Bob Dasso, Sls. Mgr.

## MAGNETIC SPECIALTIES, INC.

164 Keystone Drive  
Telford, PA, U.S.A 18969  
Tel: (215) 258-5730 • Fax: (215) 258-3353  
Web: [www.magspecinc.com](http://www.magspecinc.com)  
E-Mail: [maa@solarimg.com](mailto:maa@solarimg.com)

## MAPFRAME CORPORATION

Two Lincoln Centre, 5420 LBJ Freeway Suite 1250  
Dallas, TX, U.S.A 75240  
Tel: (214) 741-2264 • Fax: (214) 741-2283  
Web: [www.mapframe.com](http://www.mapframe.com)  
E-Mail: [info@mapframe.com](mailto:info@mapframe.com)

## MARCUS EVANS

CGI Tower - 3rd Floor  
Warrens, St. Michael, Barbados, U.S.A W.I.  
Tel: (246) 417-5419 • Fax: (888) 844-4901  
Web: [www.marcusevans.com](http://www.marcusevans.com)

## MASTEC ENERGY SERVICES

1715 Orr Industrial Court  
Charlotte, NC, U.S.A 28213  
Tel: (800) 280-6570 • Fax: (704) 599-9824  
Web: [www.mastec.com](http://www.mastec.com)  
E-Mail: [barry.batson@mastec.com](mailto:barry.batson@mastec.com)

## MAUELL CORPORATION

31 Old Cabin Hollow Road  
Dillsburg, PA, U.S.A 17019  
Tel: (717) 432-8686 • Fax: (717) 432-8688  
Web: [www.mauell-us.com](http://www.mauell-us.com)  
E-Mail: [sales@mauell-us.com](mailto:sales@mauell-us.com)  
Contact: Gary Suchy

**MAXWELL**

9244 Balboa Ave  
 San Diego, CA, U.S.A 92123  
 Tel: (858) 503-3300 • Fax: (858) 503-3301  
 Web: www.maxwell.com

**MAYSTEEL LLC**

(Electric Utility Products & Enclosures)  
 P.O. Box 1240  
 N89 W14700 Patritia Drive,  
 Menomonee Falls WI, U.S.A 53052-1240  
 Tel: (262) 251-1632 • (800) 255-1247  
 Fax: (262) 251-8307  
 Web: www.maysteel.com  
**See ad page 123**

**MCM INTERNATIONAL**

5115 Trans-Island Suite 234  
 Montréal, QC, CA H3W 2Z9  
 Tel: (514) 918-2511 • Fax: (514) 486-0091  
 Web: www.mcmstructures.com

**MEASUREMENT SYSTEMS INTERNATIONAL**

14240 Interurban Avenue South, STE 200  
 Seattle, WA, U.S.A 98168-4661  
 Tel: (800) 874-4320 • Fax: (206) 244-8470  
 Web: www.msiscscales.com  
 E-Mail: info@msiscscales.com  
 Contact: Jeff Brandt

**MEGGER**

4271 Bronze Way  
 Dallas, TX, U.S.A 75237-1088  
 Tel: (214) 333-3201 • Fax: (214) 331-7379  
 Web: www.megger.com  
**See ad page 29**

**MEMCO, INC.**

4849 Olson Drive  
 Dallas, TX, U.S.A 75227  
 Tel: (214) 388-5656 • Fax: (214) 388-8479  
 Web: memco.us/electrical  
 E-Mail: mcferrin@memco.us  
 Contact: Michael McFerrin

**MERICHEM COMPANY**

5450 Old Spanish Trail  
 Houston, TX, U.S.A 77023  
 Tel: (713) 428-5280 • Fax: (713) 921-4604  
 Web: www.merichem.com

**MGE UPS SYSTEMS**

1660 Scenic Ave.  
 Costa Mesa, CA, U.S.A 92626  
 Tel: (714) 557-1636 • Fax: (714) 434-0865  
 Web: www.mgeups.com/us  
 E-Mail: brian.dillard@mgeups.com  
 Contact: Brian Dillard

**MICROWAVE DATA SYSTEMS, INC.**

175 Science Parkway  
 Rochester, NY, U.S.A 14620  
 Tel: (585) 242-9600 • Fax: (585) 242-9620  
 Web: www.microwavedata.com  
 E-Mail: sales@microwavedata.com  
**See ad page 60**

**MIKRON INFRARED INC.**

1101 Elevation Street Suite 3  
 Hancock, MI, U.S.A 49930  
 Tel: (906) 487-6060 • Fax: (906) 487-6066  
 Web: www.mikroninfrared.com  
 E-Mail: sales@mikroninfrared.com  
**See ad page 33**

**MILBANK MFG. CO.**

4801 Deramus  
 Kansas City, MO, U.S.A 64120  
 Tel: (816) 483-5314 • Fax: (816) 483-6357  
 Web: www.milbankmfg.com  
 E-Mail: sales@milbankmfg.com

**MILSOFT INTEGRATED SOLUTIONS INC.**

4400 Buffalo Gap Road Suite 5150  
 Abilene, TX, U.S.A 79606  
 Tel: (325) 695-1642 • (800) 344-5647  
 Fax: (325) 690-0338  
 Web: www.milsoft.com  
 E-Mail: stephen@milsoft.com  
**See ad page 44**

**MOBILEDATAFORCE™ INC.**

3380 Americana Terrace Suite 360  
 Boise, ID, U.S.A 83706200 • Fax: (208) 384-1201  
 Web: www.mobiledataforce.com

**MOLONEY ELECTRIC, INC.**

213 Sterling Road  
 Toronto, ON, CA M6R 2B4  
 Tel: (416) 534-9226 • Fax: (416) 534-6906  
 Web: www.moloney-electric.com  
 E-Mail: sales@moloney-electric.com

**MRO SOFTWARE, INC.**

100 Crosby Drive  
 Bedford, MA, U.S.A 01730  
 Tel: (781) 280-2000 • Fax: (781) 280-2207  
 Web: www.mro.com  
 Contact: Brenda Schulte

**MSE-TETRAGENICS**

200 Technology Way  
 Butte, MT, U.S.A 59701  
 Tel: (406) 533-6800 • Fax: (406) 533-6818  
 Web: www.tetragenics.com  
 E-Mail: jeff.hartwick@mse-ta.com  
 Contact: Jeff Hartwick

**N****NATIONAL ELECTRIC COIL**

800 King Avenue  
 Columbus, OH, U.S.A 43212  
 Tel: (614) 488-1151 • Fax: (614) 488-8892  
 Web: www.national-electric-coil.com  
 E-Mail: sjeney@national-electric-coil.com  
 Contact: Stephen Jeney

**NATIONAL SAFETY APPAREL, INC.**

3865 W 150th St.  
 Cleveland, OH, U.S.A 44111  
 Tel: (216) 941-1111 • Fax: (216) 941-1130  
 Web: www.nsamfg.com  
 E-Mail: protect@nsamfg.com  
 Contact: Duane Siders

**NEOPTIX FIBER OPTIC SENSORS**

1415 Boul. Charest Ouest Suite 220  
 Quebec, QC, CA G1N 4N7  
 Tel: (418) 687-2500 • Fax: (418) 687-2425  
 Web: www.neoptix.com • E-Mail: info@neoptix.com  
**See ad page 70**

**NESCO INC.**

3112 East State Road 124  
 Bluffton, IN, U.S.A 46714  
 Tel: (260) 824-6340 • (800) 252-0043  
 Fax: (260) 824-6350  
 Web: www.nescosales.com  
 E-Mail: nesco@nescosales.com  
 Contact: Rob Troxel

**NEXANS**

140 Allstate Pkwy  
 Markham, ON, CA L3R 0Z7  
 Tel: (905) 944-4300 • (800) 268-9473  
 Fax: (905) 944-4330  
 Web: www.nexansenergy.com  
 E-Mail: rick.vascotto@nexans.com

**NMT CORPORATION**

2004 Kramer Street  
 La Crosse, WI, U.S.A 54603  
 Tel: (608) 781-0850 • Fax: (608) 781-3883  
 Web: www.nmt.com  
 E-Mail: tom.ringdahl@nmt.com  
 Contact: Tom Ringdahl

**NOVINIUM**

22019 70th Avenue South  
 Kent, WA, U.S.A 98032  
 Tel: (206) 529-4828 • Fax: (206) 774-9754  
 Web: www.novinium.com  
 E-Mail: rich.brinton@novinium.com  
 Contact: Rich Brinton

**OFIL LTD**

13a Einstein Street, P.O. Box 4016  
 Nes-Ziona, Israel, U.S.A 74140  
 Tel: (972) 894-7953 • Fax: (972) 894-7873  
 Web: www.ofilsystems.com  
 E-Mail: ofil@ofilsystems.com

**OHIO SEMITRONICS INC.**

4242 Reynolds Drive  
 Hilliard, OH, U.S.A 43026  
 Tel: (614) 777-1005 • (800) 537-0277  
 Fax: (614) 777-4511  
 Web: www.ohiosemi.com  
 E-Mail: sales@ohiosemitronics.com  
 Contact: Bill Hogue

**OLAMETER INC.**

300 Industrial Parkway South  
 Aurora, ON, CA L4G 3T9  
 Tel: (905) 841-1167 • (800) 903-7003  
 Fax: (905) 841-1288  
 Web: www.olameter.com  
 E-Mail: info@olameter.com

**OMICRON ELECTRONICS CORP. USA**

12 Greenway Plaza Suite 1510  
 Houston, TX, U.S.A 77046  
 Tel: 1-800-omicron Web: www.omicronusa.com  
 E-Mail: info@omicronusa.com

## OPEN SYSTEMS

## INTERNATIONAL, INC.

3600 Holly Lane North Suite 40  
Minneapolis, MN, U.S.A 55447-1286  
Tel: (763) 551-0559 • Fax: (763) 551-0750  
Web: [www.osii.com](http://www.osii.com) • E-Mail: [sales@osii.com](mailto:sales@osii.com)  
**See ad page 15**

## OPENLINK, HEADQUARTERS

1370 6th Avenue, Suite 901  
New York, NY, U.S.A 10019  
Tel: (212) 641-8787 • Fax: (212) 641-8797  
Web: [www.olf.com](http://www.olf.com) • E-Mail: [info@olf.com](mailto:info@olf.com)  
**Contact:** Tara Neumann

## OPTIMIZED DEVICES

220 Marble Ave  
Pleasantville, NY, U.S.A 10570  
Tel: (914) 769-6100 • Fax: (914) 769-6102  
Web: [www.optdev.com](http://www.optdev.com) • E-Mail: [sales@optdev.com](mailto:sales@optdev.com)

## OPVANTEK, INC.

28 South State Street  
Newtown, PA, U.S.A 18966  
Tel: (215) 968-7790  
Web: [www.opvantek.com](http://www.opvantek.com)  
E-Mail: [sales@opvantek.com](mailto:sales@opvantek.com)  
**Contact:** Eric Kobosh

## ORIGO CORPORATION

6225 E. Saguaro Vista CT.  
Cave Creek, AZ, U.S.A 85331  
Tel: (480) 473-1995  
Web: [www.origocorp.com](http://www.origocorp.com)  
E-Mail: [gpiessinger@origocorp.com](mailto:gpiessinger@origocorp.com)  
**Contact:** Greg Piesinger

## ORTON CONSULTING ENGINEERS

P.O. Box 38715  
Metropolitan Postal Outlet  
North Vancouver BC, CA V7M 3N1  
Tel: (604) 929-3234 • Fax: (604) 929-3802  
Web: [www.bc-alter.net/ice](http://www.bc-alter.net/ice)  
E-Mail: [heorton@msn.com](mailto:heorton@msn.com)

## OSENERSA S. A.

Venezuela 689 y Chile  
Ambatp, Tungurahua, Ecuador 18-236  
Tel: 59323464573 • Fax: 59323464573  
E-Mail: [dustinsoria@netscape.net](mailto:dustinsoria@netscape.net)  
**Contact:** Eng. Dustin Soria

## OSMOSE UTILITIES SERVICES, INC.

980 Ellicott Street  
Buffalo, NY, U.S.A 14209-2398  
Tel: (716) 882-5905 • Fax: (716) 882-7822  
Web: [www.osmoseutilities.com](http://www.osmoseutilities.com)  
E-Mail: [calmeter@osmose.com](mailto:calmeter@osmose.com)  
**Contact:** Carl Almeter

## OX CREEK ENERGY

P.O. Box 600  
Montebello, WI, U.S.A 53949  
Tel: (608) 589-5510 • (800) 531-6232  
Fax: (608) 589-5509  
Web: [www.ox-creek-energy.com](http://www.ox-creek-energy.com)  
E-Mail: [oxcreek@maqs.net](mailto:oxcreek@maqs.net)

## P

## P&amp;R TECHNOLOGIES INC.

P.O. Box 554  
Portland, OR, U.S.A 97207  
Tel: (503) 292-8682 • (800) 722-8078  
Fax: (503) 292-8697  
Web: [www.pr-tech.com](http://www.pr-tech.com)  
E-Mail: [prtech@pr-tech.com](mailto:prtech@pr-tech.com)

PALMER WAHL  
INSTRUMENTATION GROUP

234 Old Weaverville Road  
Asheville, NC, U.S.A 28804  
Tel: (800) 421-2843 • Fax: (828) 658-0728  
Web: [www.palmerwahl.com](http://www.palmerwahl.com)  
E-Mail: [asantangelo@palmerwahl.com](mailto:asantangelo@palmerwahl.com)  
**Contact:** Anne Santangelo

## PARK ELECTRIC

19197 Sherwood Ave  
Detroit, MI, U.S.A 48234  
Tel: (313) 366-2200 • Fax: (313) 366-1540  
Web: [www.parkdetroit.com](http://www.parkdetroit.com)

## PAUWELS CANADA INC.

101 Rockman Street, Winnipeg, MB, CA R3T 0L7  
Tel: (204) 452-7446 • (800) 665-9450  
Fax: (204) 284-2696  
Web: [www.pauwels.com](http://www.pauwels.com) • E-Mail: [info@pauwels.com](mailto:info@pauwels.com)  
**See ad page 120**

## PAUWELS TRANSFORMERS INC.

1 Pauwels Drive  
Washington, MO, U.S.A 63090  
Tel: (636) 239-9300 • Fax: (636) 239-9398  
Web: [www.pauwels.com](http://www.pauwels.com)

PCB CONTAINMENT  
TECHNOLOGY (KITCHENER) INC.

75 Wanless Court,  
Ayr, ON, CA N0B 1E0  
Tel: (519) 740-1333 ext.24 • (800) 324-8997  
Fax: (519) 740-2320  
Web: [www.contech.ca](http://www.contech.ca) • E-Mail: [pcbsales@contech.ca](mailto:pcbsales@contech.ca)  
**Contact:** Martin Hassenbach

## PCORE ELECTRIC COMPANY, INC.

135 Gilbert Street  
LeRoy, NY, U.S.A 14482  
Tel: (585) 768-1200 • Fax: (585) 768-1212  
Web: [www.pcoreelectric.com](http://www.pcoreelectric.com)

## PENN SEPARATOR CORP.

5 South Pickering Street P.O. Box 340  
Brookville, PA, U.S.A 15825  
Tel: (814) 849-7328 • (800) 255-6558  
Fax: (814) 849-4510  
Web: [www.pennseparator.com](http://www.pennseparator.com)  
E-Mail: [info@pennseparator.com](mailto:info@pennseparator.com)  
**Contact:** Steve Mcneil, President

## PENNINGTON CROSSARM CO.

P.O. Box 2236,  
Eugene, OR, U.S.A 97402  
Tel: (541) 343-6968 • Fax: (541) 343-7843  
Web: [www.crossarms.com](http://www.crossarms.com)

## PENTADYNE POWER CORP.

20750 Lassen St.  
Chatsworth, CA, U.S.A 91311  
Tel: (818) 350-0037 • Fax: (818) 350-0384  
Web: [www.pentadyne.com](http://www.pentadyne.com)  
E-Mail: [sales@pentadyne.com](mailto:sales@pentadyne.com)  
**Contact:** David Townley

## PHENIX TECHNOLOGIES INC.

75 Speicher Drive  
Accident, MD, U.S.A 21520  
Tel: (301) 746-8118 • Fax: (301) 895-5570  
Web: [www.phenixtech.com](http://www.phenixtech.com)  
E-Mail: [info@phenixtech.com](mailto:info@phenixtech.com)  
**See ad page 125**

## PHOENIX MFG LTD

141 Fulton Street South  
Milton, ON, CA L9T 2J8  
Tel: (905) 878-2818 • Fax: (905) 878-0051  
Web: [www.phnxfmfg.com](http://www.phnxfmfg.com)  
E-Mail: [sales@phnxfmfg.com](mailto:sales@phnxfmfg.com)

## PLASTIC COMPOSITES COMPANY

8301 N. Clinton St.  
Fort Wayne, IN, U.S.A 46825  
Tel: (260) 484-3139 • Fax: (260) 483-2532  
Web: [www.buckettruckparts.com](http://www.buckettruckparts.com)  
E-Mail: [inpocc@aol.com](mailto:inpocc@aol.com)  
**Contact:** Craig Keoun

## POLARIS CONNECTORS

6971 108th Ave North  
Largo, FL, U.S.A 33777  
Tel: (877) 584-5847 • Fax: (727) 546-0540  
Web: [www.polarisconnectors.com](http://www.polarisconnectors.com)  
E-Mail: [nmoraitis@polarisconnectors.com](mailto:nmoraitis@polarisconnectors.com)  
**Contact:** Nick Moraitis

## POLYBRITE INTERNATIONAL

1751 W. Diehl Road, Suite 110  
Naperville, IL, U.S.A 60563  
Tel: (800) 320-3801 • Fax: (630) 717-5646  
Web: [www.polybrite.com](http://www.polybrite.com)  
E-Mail: [tula@polybrite.com](mailto:tula@polybrite.com)  
**Contact:** Tula Kareotes

## POSITRONIC INDUSTRIES INC.

423 N. Campbell Ave  
Springfield, MO, U.S.A 65806  
Tel: (417) 866-2322 • (800) 641-4054  
Fax: (417) 866-4115  
Web: [www.connectpositronic.com](http://www.connectpositronic.com)  
E-Mail: [info@connectpositronic.com](mailto:info@connectpositronic.com)  
**See ad page 38**

## POWCO STEEL PRODUCTS LIMITED

100 Ellis Drive  
Barrie, ON, CA L4N 9B2  
Tel: (705) 721-1090 • (800) 645-1664  
Fax: (705) 721-1449  
Web: [www.powcosteel.com](http://www.powcosteel.com)  
E-Mail: [sales@powcosteel.com](mailto:sales@powcosteel.com)

## POWEL-MINIMAX

930 Blue Gentian Road Suite 1300  
St. Paul, MN, U.S.A 55121  
Tel: (651) 251-3005 • Fax: (651) 251-3006  
Web: [www.powelminimax.com](http://www.powelminimax.com)  
E-Mail: [jeff.baumer@powelminimax.com](mailto:jeff.baumer@powelminimax.com)  
**Contact:** Jeff Baumer

**POWER CORE ENGINEERING, INC.**

2821 North 4th Street; MEC Suite #223  
Milwaukee, WI, U.S.A 53212-2366  
Tel: (414) 263-3455  
E-Mail: ctisser-pce@juno.com  
Contact: Clifford Tisser, P.e.

**POWER SALES & SERVICE - ATLANTA**

P.O. Box 11715  
Atlanta, GA, U.S.A 30355  
Tel: (442) 378-8239  
E-Mail: jperryut@bellsouth.net  
Contact: Joe Perry

**PQGROUND TESTING, INC.**

40 Bay Ridge Drive, Ste. I  
Nashua, NH, U.S.A 03062  
Tel: (603) 888-6851 • Fax: (603) 888-6852  
Web: www.electricquality.com  
E-Mail: lightning44@comcast.net  
Contact: Burt Brooks

**PRESCO**

1201 E. Pecan Street  
Sherman, TX, U.S.A 75090  
Tel: (903) 957-2245 • Fax: (903) 893-2328  
Web: www.presco.com  
E-Mail: dbennett@presco.com  
Contact: Debbie Bennett

**PROG USA - PROGRAMMA**

356 Harbour Isle Way  
Longwood, FL, U.S.A 32750  
Tel: (407) 332-8678 • Fax: (407) 332-8894  
Web: www.progusa.net • E-Mail: kime@progusa.net

**PROSOFT TECHNOLOGY**

1675 Chester Avenue, Floor Four  
Bakersfield, CA, U.S.A 93301  
Tel: (661) 716-5100  
Web: www.prosoft-technology.com  
E-Mail: prosoft@prosoft-technology.com  
Contact: Inside Sales

**PSD, INC.**

Wholly-Owned Subsidiary of Waukesha Electric Systems  
130 Third Street NW, Canton, OH, U.S.A 44702  
Tel: (330) 452-4434 • Fax: (330) 453-5047  
Web: www.psdohio.com  
E-Mail: psdinfo@waukesha.spx.com

**PULEO ELECTRONICS INC.**

39 Hutcheson Place  
Lynbrook, NY, U.S.A 11563  
Tel: (516) 599-4875  
Web: www.annunciator.com  
E-Mail: joseph@puleoinc.com  
Contact: Joseph Puleo

**PW ASSOCIATES**

14040 York Road  
Charlotte, NC, U.S.A 28278  
Tel: (704) 588-7426 • Fax: (704) 588-7434  
Web: pwassociates.org  
E-Mail: pwassociates11@aol.com  
Contact: Bill Phillips

**Q****QUALITROL CORP**

1385 Fairport Rd.  
Fairport, NY, U.S.A 14450  
Tel: (585) 586-1515 • Fax: (585) 377-0220  
Web: www.qualitrolcorp.com  
E-Mail: info@qualitrolcorp.com

**R****RADIUS US INC.**

21034 Heron Way Suite 101  
Lakeville, MN, U.S.A 55044  
Tel: (952) 469-1135 • Fax: (952) 469-1050  
Web: www.radius.net • E-Mail: info-us@radius.net

**RAINBOW TECHNOLOGY**

261 Cahaba Valley Parkway  
Pelham, AL, U.S.A 35124-1146  
Tel: (800) 637-6047 • Fax: (800) 521-6896  
Web: www.rainbowtech.net  
E-Mail: sales@rainbowtech.net  
Contact: Larry W. Steeley

**RANPRO, INC.**

620 Ireland Rd.  
Simcoe, ON, CA N3Y 4L6  
Tel: (519) 426-1094 • Fax: (519) 426-5313  
Web: www.ranpro.com  
E-Mail: ranpro@ranpro.com  
See ad page 39

**RCCS**

53 Plain Street  
Braintree, MA, U.S.A 02184  
Tel: (781) 848-0155 • Fax: (781) 848-0540  
Web: rccscontrols.com • E-Mail: rccs@aol.com  
Contact: Wally Pitts

**REALTIME UTILITY ENGINEERS**

8417 Excelsior Drive  
Madison, WI, U.S.A 53717  
Tel: 800-297-1478, ext. 100 • Fax: (608) 664-2009  
Web: www.realtimeutilityengineers.com  
E-Mail: mmitchell@realtimeutilityengineers.com  
Contact: Mel Mitchell

**REEF INDUSTRIES**

9209 Alameda Genoa  
Houston, TX, U.S.A 77075  
Tel: (713) 507-4251 • Fax: (713) 507-4295  
Web: www.reefindustries.com  
E-Mail: ri@reefindustries.com  
Contact: Tom Scarborough

**REGENCY TECHNOLOGIES INC.**

(Formerly RELM Demand Side Management) P.O.  
Box 269010  
Indianapolis, IN, U.S.A 46226-9010  
Tel: (317) 543-9740 • (800) 376-7356  
Fax: (317) 543-9746  
Web: www.regencytec.com  
E-Mail: regencytech@juno.com  
Contact: Angelo Kostarides

**RELIATRONICS INC.**

1858 Ranch Road 3232  
Johnson City, TX, U.S.A 78636-4359  
Tel: (830) 868-9400 • Fax: (830) 868-9900  
Web: www.reliatronics.com  
E-Mail: sales@reliatronics.com  
Contact: Hershel Roberson

**REPTAME EQUIPMENT INC.**

2313 Tottenham Rd  
Tottenham, ON, CA L0G 1W0  
Tel: (905) 936-6979  
Web: www.reptame.com  
E-Mail: duane@reptame.com  
Contact: Duane Paquette

**RE-STEEL SUPPLY**

2000 Eddystone Ind. Park  
Eddystone, PA, U.S.A 19013  
Tel: (215) 840-6541 • Fax: (610) 876-8248  
E-Mail: jls@resteel.com  
Contact: John L. Stevens

**RFL ELECTRONICS INC.**

353 Powerville Road  
Boonton Township, NJ, U.S.A 07005  
Tel: (973) 334-3100 • Fax: (973) 334-3863  
Web: www.rflect.com

**RICHARDS MANUFACTURING CO. SALES INC.**

517 Lyons Avenue  
Irvington, NJ, U.S.A 07111  
Tel: (973) 371-1771 • Fax: (973) 371-9538  
Web: www.richards-mfg.com  
E-Mail: richardsales@richards-mfg.com  
Contact: Andrea Bier, Sales

**RIDGE TOOL COMPANY**

400 Clark Street, Elyria, OH, U.S.A 44035  
Tel: (800) 769-7743 • Fax: (440) 329-4551  
Web: www.ridgid.com • E-Mail: info@ridgid.com  
Contact: Steve Dyer

**RTDS TECHNOLOGIES, INC.**

300 - 137 Innovation Drive  
Winnipeg, MB, CA R3T 6B6  
Tel: (204) 989-9700 • Fax: (204) 452-4303  
Web: www.rtds.com  
See ad page 122

**RUGGED COM INC.**

30 Whitmore Road, Woodbridge, ON, CA L4L 7Z4  
Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
Web: www.ruggedcom.com  
See ad page 13

**RUMSEY ELECTRIC CO**

15 Colwell Ln  
Conshohocken, PA, U.S.A 19428  
Tel: (484) 686-7216 • Fax: (610) 941-3910  
Web: www.rumseyus.com  
E-Mail: cjones@rumsey.com  
Contact: S Chip Jones

**S****S & C ELECTRIC COMPANY**

6601 North Ridge Blvd.  
Chicago, IL, U.S.A 60626  
Tel: (773) 338-1000 • Fax: (773) 338-5102  
Web: www.sandc.com  
See ad page 62

## S&C ELECTRIC COMPANY

6601 N. Ridge Blvd., Chicago, IL, U.S.A 60626-3997  
Tel: (773) 338-1000 • Fax: (773) 338-2562  
Web: [www.sandc.com](http://www.sandc.com) • E-Mail: [sstrand@sandc.com](mailto:sstrand@sandc.com)  
Contact: Steve Strand  
See ad page 62

## SABRE TUBULAR STRUCTURES

2300 West Risinger Road,  
Fort Worth, TX, U.S.A 76134  
Tel: (817) 294-7210 • (866) 254-3707  
Fax: (817) 294-8366  
Web: [www.sabrecom.com](http://www.sabrecom.com)  
E-Mail: [utilitiesales@sabrecom.com](mailto:utilitiesales@sabrecom.com)  
Contact: Tara Madia, Inside Sales Manager  
See ad page 43

## SARGENT & LUNDY LLC

55 East Monroe Street, Chicago, IL, U.S.A 60603  
Tel: (312) 269-7792 • Fax: (312) 269-9697  
Web: [www.sargentlundy.com](http://www.sargentlundy.com)  
E-Mail: [kenneth.d.simpson@sargentlundy.com](mailto:kenneth.d.simpson@sargentlundy.com)  
Contact: Bill Paschal

## SATEC

10 Milltown Court, Union, NJ, USA 07083  
Tel: (908) 686-9510 • Fax: (908) 686-9520  
Web: [www.oksatec.com](http://www.oksatec.com) • E-Mail: [sales@oksatec.com](mailto:sales@oksatec.com)  
See ad Outside Back Cover

## SCHAEFER INC

200 Butterfield Drive  
Ashland, MA, U.S.A 01721  
Tel: (508) 881-7330 • Fax: (508) 231-0861  
Web: [www.schaeferpower.com](http://www.schaeferpower.com)  
E-Mail: [sales@schaeferpower.com](mailto:sales@schaeferpower.com)  
Contact: Sue Gillogly

## SCHWEITZER ENGINEERING LABORATORIES INC.

2350 N.E. Hopkins Court  
Pullman, WA, U.S.A 99163-5603  
Tel: (509) 332-1890 • Fax: (509) 332-7990  
Web: [www.selinc.com](http://www.selinc.com) • E-Mail: [info@selinc.com](mailto:info@selinc.com)  
See ad page 109

## SCOTT ENGINEERING INC.

20540 Walnut Drive  
Walnut, CA, U.S.A 91789-2925  
Tel: (909) 594-9637 • Fax: (909) 595-0379  
E-Mail: [bob.b@scott-eng.com](mailto:bob.b@scott-eng.com)  
Contact: Bob Bertolli

## SENSUS METERING SYSTEMS

1501 Ardmore Blvd. 6th Floor  
Pittsburgh, PA, U.S.A 15221  
Tel: 1-800-Meter-IT • Fax: (724) 439-7729  
Web: [www.sensus.com](http://www.sensus.com)  
E-Mail: [askicon@sensus.com](mailto:askicon@sensus.com)

## SHAKESPEARE COMPOSITE STRUCTURES

19845 Hwy 76, Newberry, SC, U.S.A 29108  
Tel: (800) 800-9008 • Fax: (803) 276-8940  
Web: [skp-cs.com](http://skp-cs.com) • E-Mail: [bgriffin@skp-cs.com](mailto:bgriffin@skp-cs.com)  
Contact: Bill Griffin

## SHANDONG KEHUI ELECTRIC CO.,LTD

1101 N. 5th St  
Tacoma, WA, U.S.A 98403-1610  
Tel: (253) 678-2661 • Fax: (206) 350-6482  
Web: [www.kehui.com/eabout.htm](http://www.kehui.com/eabout.htm)  
E-Mail: [tim@tichenassociates.com](mailto:tim@tichenassociates.com)  
Contact: Timothy Chen

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

4700 Falls of Neuse Road Suite 200  
Raleigh, NC, U.S.A 27609  
Tel: (919) 325-7000 • Fax: (919) 325-7057  
Web: [www.usa.siemens.com](http://www.usa.siemens.com)  
Contact: Chris Gomperts, Vp Marketing

## SIGNALCRAFTERS TECH, INC

57 Eagle Rock Ave  
East Hanover, NJ, U.S.A 07936  
Tel: (973) 781-0880 • Fax: (973) 781-9044  
Web: [www.signalcrafters.com](http://www.signalcrafters.com)  
E-Mail: [davej@signalcrafters.com](mailto:davej@signalcrafters.com)  
Contact: Dave Jenkins

## SILVER SPRING NETWORKS

2755 Campus Drive, Suite 205  
San Mateo, CA, U.S.A 94403  
Tel: (650) 357-8770 • Fax: (650) 357-8771  
Web: [www.silverspringnet.com](http://www.silverspringnet.com)  
E-Mail: [lisamag@silverspringnet.com](mailto:lisamag@silverspringnet.com)  
Contact: Lisa Magnuson

## SMARTSYNCH, INC.

4400 Old Canton Road, Suite 300  
Jackson, MS, U.S.A 39211  
Tel: (601) 362-1780 • Fax: (601) 362-1787  
Web: [www.smartsynch.com](http://www.smartsynch.com)  
E-Mail: [llaird@smartsynch.com](mailto:llaird@smartsynch.com)  
Contact: Lee Laird

## SOLIDIFICATION PRODUCTS INTERNATIONAL INC.

P.O. Box 35, 1437 Middletown Ave.  
Northford, CT, U.S.A 06472  
Tel: (203) 484-9494 • (800) 758-3634  
Fax: (203) 484-9492  
Web: [www.oilbarriers.com](http://www.oilbarriers.com)

## SPECIALTY SEALING TECHNOLOGIES

PO Box 566  
Pelham, AL, U.S.A 35124  
Tel: (205) 620-1644 • Fax: (205) 663-4238  
Web: [www.thesealguy.com](http://www.thesealguy.com)  
E-Mail: [jwsealguy@aol.com](mailto:jwsealguy@aol.com)  
Contact: John R. Jakubowski

## SPL WORLD GROUP

157 Headquarters Plaza 8th Floor  
Morristown, NJ, U.S.A 07960  
Tel: (973) 401-7525 • Fax: (973) 539-3785  
Web: [www.splwg.com](http://www.splwg.com) • E-Mail: [info@splwg.com](mailto:info@splwg.com)

## STERNBERG LIGHTING

555 Lawrence Ave.  
Roselle, IL, U.S.A 60172  
Tel: (847) 588-3400 • Fax: (847) 588-3440  
Web: [www.sternberglighting.com](http://www.sternberglighting.com)  
E-Mail: [jlehrfeld@sternberglighting.com](mailto:jlehrfeld@sternberglighting.com)  
Contact: Jerry Lehrfeld

## STORAGE BATTERY SYSTEMS INC.

N56 W16665 Ridgewood Drive  
Menomonee Falls, WI, U.S.A 53051  
Tel: (262) 703-5800 • (800) 554-2243  
Fax: (262) 703-3073  
Web: [www.sbsbattery.com](http://www.sbsbattery.com)  
E-Mail: [maxm@sbsbattery.com](mailto:maxm@sbsbattery.com)  
Contact: Max Mueller Ext: 3033

## SYMMETRICOM

2300 Orchard Parkway  
San Jose, MA, U.S.A 95131  
Tel: (978) 232-1422 • Fax: (978) 927-4099  
Web: [www.symmmtm.com](http://www.symmmtm.com)  
E-Mail: [sbennett@symmetricom.com](mailto:sbennett@symmetricom.com)  
Contact: Stacey Bennett

## T

## T & R ELECTRIC SUPPLY COMPANY INC.

P.O. Box 180  
Colman, SD, U.S.A 57017  
Tel: (605) 534-3555 • (800) 843-7994  
Fax: (605) 534-3861  
Web: [www.t-r.com](http://www.t-r.com) • E-Mail: [t-r@t-r.com](mailto:t-r@t-r.com)  
Contact: John Bunkers, Sls Mgr  
See ad page 129

## T.I. CHEN ASSOCIATES LLC.

1101 N. 5th St  
Tacoma, WA, U.S.A 98403-1610  
Tel: (253) 678-2661 • Fax: (206) 350-6482  
Web: [www.tichenassociates.com/transformerproducts](http://www.tichenassociates.com/transformerproducts)  
E-Mail: [tim@tichenassociates.com](mailto:tim@tichenassociates.com)  
Contact: Timothy Chen

## TANTALUS SYSTEMS CORP.

100-2955 Virtual Way  
Vancouver, BC, CA V5M 4X6  
Tel: (604) 299-0458 • Fax: (604) 451-4111  
Web: [www.tantalus.com](http://www.tantalus.com)  
E-Mail: [tantalussales@tantalus.com](mailto:tantalussales@tantalus.com)

## TELESCADA

35 Corporate Park Drive  
Pembroke, MA, U.S.A 02359  
Tel: (781) 829-9228 • Fax: (781) 829-9875  
Web: [www.telescada.com](http://www.telescada.com)  
E-Mail: [sales@telescada.com](mailto:sales@telescada.com)  
Contact: Charles Marshall

## TELTONE CORPORATION

P.O. Box 945  
Bothell, WA, U.S.A 98041-0945  
Tel: (425) 951-3006  
Web: [www.teltone.com](http://www.teltone.com) • E-Mail: [jkut@teltone.com](mailto:jkut@teltone.com)  
Contact: John Kutz

## TELVENT

7000 A Hollister Rd  
Houston, TX, U.S.A 77040-5337  
Tel: (713) 939-9399 • Fax: (713) 939-7424  
Web: [www.telvent.com](http://www.telvent.com)  
E-Mail: [info.usa@telvent.abengoa.com](mailto:info.usa@telvent.abengoa.com)

## TENSING

19500 Amaranth Drive, Suite C  
Germantown, MD, U.S.A 20874  
Tel: (240) 686-0680 • Fax: (240) 686-0681  
Web: [www.tensing.us](http://www.tensing.us)  
E-Mail: [jleeuwenburg@tensing.com](mailto:jleeuwenburg@tensing.com)  
Contact: John Leeuwenburg

## TEQAL INC.

CP 51 Succ La Prairie  
La Prairie, QC, CA J5R 3Y1  
Tel: (514) 894-9403 • Fax: (450) 659-6972  
Web: [www.teqal.com](http://www.teqal.com) • E-Mail: [andre@teqal.com](mailto:andre@teqal.com)  
Contact: Andre Langevin

**TEREX UTILITIES**

600 Oakwood Rd., P.O. Box 1150  
Watertown, ND, U.S.A 57201  
Tel: (605) 882-5526 • Fax: (605) 882-5546  
Web: www.terexutilities.com

**THE BILCO COMPANY**

P.O. Box 1203  
New Haven, CT, U.S.A 06505  
Tel: (203) 934-6363  
Web: www.bilco.com • E-Mail: bilco@bilco.com  
Contact: Michael Toohey

**THE HOMAC COMPANIES**

12 Southland Road  
Ormond Beach, FL, U.S.A 32174  
Tel: (386) 677-9110 • Fax: (386) 673-5497  
Web: www.homac.com • E-Mail: sales@homac.com  
Contact: Mark Hammer

**THE VON CORPORATION**

P.O. Box 110096  
Birmingham, AL, U.S.A 35211  
Tel: (205) 788-2437 • Fax: (205) 780-4015  
Web: www.voncorp.com  
E-Mail: voncorp@voncorp.com  
See ad page 8

**THIES ELECTRICAL  
DISTRIBUTING CO.**

43 Hilltop Drive  
Cambridge, ON, CA N1R 1T2  
Tel: (519) 621-2524 • Fax: (519) 740-1203  
Web: www.djinfo.com/tedc  
E-Mail: thiestedcca@aol.com

**THIRDPARTYINSPECTIONS.COM**

559 Union Church Road  
Elkton, MD, U.S.A 21921  
Tel: (410) 620-0392 • Fax: (270) 573-3594  
Web: www.thirdpartyinspections.com  
E-Mail: steven.christian@thirdpartyinspections.com  
Contact: Steven Christian

**TIAM ENGINEERING INC**

4 Tidewater ST  
Markham, ON, CA L6E 2B5  
Tel: (905) 201-9590  
E-Mail: ktabarzadi@yahoo.ca  
Contact: Keramat Tabarazadi

**TORDONATO ENERGY  
CONSULTANTS**

4156 South Creek Rd.  
Chattanooga, TN, U.S.A 37406  
Tel: (423) 622-7555  
Web: www.tordonatoenergy.com  
E-Mail: dtordonato@tordonatoenergy.com  
Contact: David Tordonato

**TOWER SOLUTIONS INC.**

7030 Woodbine Ave., Suite 500  
Markham, ON, CA L3R 6G2  
Tel: (905) 946-8789 • Fax: (905) 913-9083  
Web: www.implotech.ca  
E-Mail: hsildva@implotech.ca  
Contact: Harry Sildva

**TRANSFLUID SERVICES, INC.**

201 Inner Drive  
Le Sueur, MN, U.S.A 56058  
Tel: (800) 442-8077 • Fax: (612) 605-8087  
Web: www.transfluidservices.com  
E-Mail: john@transfluidservices.com  
Contact: John Laux

**TRANSISTOR DEVICES INC**

36 Newburgh Rd  
Hackettstown, NJ, U.S.A 07840  
Tel: (908) 850-5088 • Fax: (908) 850-5731  
Web: www.tdipower.com  
E-Mail: heather\_maguire@tdipower.com  
Contact: Heather Maguire

**TRANSISTOR DEVICES INC.**

36 Newburgh Rd  
Hackettstown, NJ, U.S.A 07840  
Tel: (908) 850-5088 • Fax: (908) 850-5731  
Web: www.tdipower.com  
E-Mail: heather\_maguire@tdipower.com  
Contact: Heather Maguire

**TRENCH LIMITED**

71 Maybrook Drive  
Scarborough, ON, CA M1V 4B6  
Tel: (416) 298-8108 • Fax: (416) 298-2209  
Web: www.trenchgroup.com  
E-Mail: tonyj@ca.trenchgroup.com  
Contact: Tony Jefferson  
See ad page 106

**TRINITY ANALYTICAL LABS, INC.**

115 E. 5th Street  
Mound Valley, KS, U.S.A 67354  
Tel: (800) 722-8378 • Fax: (202) 328-2033  
Web: www.e-trinitylabs.com  
E-Mail: duane.k@e-trinitylabs.com  
Contact: Duane P. Koszalka

**TRIO DATACOM**

Suite 200 7015 8 St NE  
Calgary, Alberta, CA T2E 8A2  
Tel: (866) 844-8746 • Fax: (403) 274-0459  
Web: www.triodatacom.com  
E-Mail: dbell@triodatacom.com  
Contact: Dave Bell

**TÜRK PRYSMIAN KABLO VE SIS-  
TEMLERİ A.Ş.**

Bursa yolu No:1 Mudanya  
BURSA, Mudanya, Turkey 16941  
Tel: 0090 224 270 31 00 • Fax: 0090 224 270 30 42  
E-Mail: levent.tolgay@prysmian.com  
Contact: Levent Tolgay

**TWACS BY DCSI**

Distribution Control Systems Inc.  
945 Hornet Dr., St. Louis, MO, U.S.A 63042  
Tel: (314) 895-6400 • Fax: (314) 895-6543  
Web: www.twacs.com • E-Mail: sales@twacs.com

**U****UAI, INC.**

307 Wynn Drive NW  
Huntsville, AL, U.S.A 35805  
Tel: (256) 705-5150 • Fax: (256) 722-8607  
Web: www.uai.com • E-Mail: joe.johnson@uai.com  
Contact: Joe Johnson

**UAMSI, INC.**

730 S. Elizabeth St.  
Denver, CO, U.S.A 80209  
Tel: (720) 635-8347 • Fax: (303) 744-2128  
Web: www.uamsi.com • E-Mail: mtao@uamsi.com  
Contact: Michael Tao

**UNDERGROUND DEVICES INC.**

3304 Commercial Drive  
Northbrook, IL, U.S.A 60062  
Tel: (847) 205-9000 • Fax: (847) 205-9004  
Web: www.udevices.com  
E-Mail: jangelo@udevices.com  
See ad page 107

**UNITED STATES ALUMOWELD  
CO LLC**

115 USAC Drive, Duncan, SC, U.S.A 29334  
Tel: (864) 848-1901 • Fax: (864) 848-1901  
Web: www.alumoweld.com  
E-Mail: bbebout@alumoweld.com  
Contact: Brenda Bebout

**UTILITY RELAY COMPANY**

10100 Queens Way  
Chagrin Falls, OH, U.S.A 44023  
Tel: (440) 708-1000 • Fax: (440) 708-1177  
Web: www.utilityrelay.com  
E-Mail: urcsales@utilityrelay.com  
Contact: Drew Binder

**V****VELCON FILTERS INC.**

1210 Garden of the Gods Road  
Colorado Springs, CO, USA 80907-3410  
Tel: (719) 531-5855 • (800) 531-0180  
Fax: (719) 531-5690  
Web: www.velcon.com  
E-Mail: vfsales@velcon.com  
See ad page 130

**VIRELEC LTD.**

3200 Ridgeway Drive Unit 11  
Mississauga, ON, CA L5L 5Y6  
Tel: (905) 569-8030 • Fax: (905) 569-6364  
Web: www.virelec.com  
See ad page 17

**W****W.I.R.E. SERVICES, A DIVISION OF  
MANITOBA HYDRO**

540 - 444 St. Mary Avenue  
Winnipeg, MB, CA R3C 3T7  
Tel: (204) 480-5800 • Fax: (204) 480-5107  
Web: www.wireservices.ca  
E-Mail: info@wireservices.ca  
See ad page 136

**WAGNER - SMITH CO. (THE)**

921 South Burleson Blvd.  
Burleson, TX, U.S.A 76028  
Tel: (817) 447-8085 • Fax: (817) 447-8917  
Web: www.wagnersmithequipment.com  
E-Mail: jwagner@wagnersmithequipment.com  
Contact: James Wagner

**WAUKESHA ELECTRIC SYSTEMS**

400 S. Prairie Ave.  
Waukesha, WI, U.S.A 53186  
Tel: (800) 835-2732 • Fax: (262) 521-0196  
Web: www.waukeshaelectric.com  
E-Mail: info@waukesha.spx.com

## WEIDMANN-ACTI INC. (BENSALEM)

3580 Progress Drive Suite K1  
Bensalem, PA, USA, U.S.A 19020  
Tel: (215) 639-8599 • Fax: (215) 639-8577  
Web: [www.weidmann-acti.com](http://www.weidmann-acti.com)  
E-Mail: [service@weidmann-acti.com](mailto:service@weidmann-acti.com)  
See ad page 103

## WEIDMANN-ACTI INC. (BURLINGTON)

919 Fraser Dr. #13  
Burlington, ON, U.S.A L7L 4X8  
Tel: (905) 632-8697 • Fax: (905) 632-8698  
Web: [www.weidmann-acti.com](http://www.weidmann-acti.com)  
E-Mail: [service@weidmann-acti.com](mailto:service@weidmann-acti.com)  
See ad page 103

## WEIDMANN-ACTI INC. (CALGARY)

110, 7304-30th Street S.E.  
Calgary, AB, Canada, U.S.A T2C 1W2  
Tel: (403) 203-0550 • Fax: (403) 203-0549  
Web: [www.weidmann-acti.com](http://www.weidmann-acti.com)  
E-Mail: [service@weidmann-acti.com](mailto:service@weidmann-acti.com)  
See ad page 103

## WEIDMANN-ACTI INC. (HOUSTON)

8406 Scranton Street  
Houston, TX, USA, U.S.A 77061  
Tel: (713) 595-1030 • Fax: (713) 595-1034  
Web: [www.weidmann-acti.com](http://www.weidmann-acti.com)  
E-Mail: [service@weidmann-acti.com](mailto:service@weidmann-acti.com)  
See ad page 103

## WEIDMANN-ACTI INC. (INDIANAPOLIS)

5305 Commerce Square Drive  
Indianapolis, IN, USA, U.S.A 46237  
Tel: (317) 888-7288 • Fax: (317) 888-2577  
Web: [www.weidmann-acti.com](http://www.weidmann-acti.com)  
E-Mail: [service@weidmann-acti.com](mailto:service@weidmann-acti.com)  
See ad page 103

## WEIDMANN-ACTI INC. (PITTSBURGH)

1580 McLaughlin Run Road  
Pittsburgh, PA, USA, U.S.A 15241  
Tel: (412) 257-3778 • Fax: (412) 257-4014  
Web: [www.weidmann-acti.com](http://www.weidmann-acti.com)  
E-Mail: [service@weidmann-acti.com](mailto:service@weidmann-acti.com)  
See ad page 103

## WEIDMANN-ACTI INC. (SACRAMENTO)

4011 Power Inn Road  
Sacramento, CA, USA, U.S.A 95826  
Tel: (916) 455-2284 • Fax: (916) 455-0191  
Web: [www.weidmann-acti.com](http://www.weidmann-acti.com)  
E-Mail: [service@weidmann-acti.com](mailto:service@weidmann-acti.com)  
See ad page 103

## WEIDMANN-ACTI INC. (ST. JOHNSBURY)

One Gordon Mills Way P.O. BOX. 799  
St. Johnsbury, VT, USA, U.S.A 05819  
Tel: (802) 748-3936 • Fax: (802) 748-8630  
See ad page 103

## WESTEX INC.

2845 West 48th Place,  
Chicago, IL, U.S.A 60632  
Tel: (773) 523-7000 • Fax: (773) 523-0965  
Web: [www.westexinc.com](http://www.westexinc.com)  
E-Mail: [menright@westexinc.com](mailto:menright@westexinc.com)  
See ad page 35

## WILMORE ELECTRONICS COMPANY, INC.

PO Box 1329  
Hillsborough, NC, U.S.A 27278  
Tel: (919) 732-9351 • Fax: (919) 732-9359  
Web: [www.wilmoreelectronics.com](http://www.wilmoreelectronics.com)  
E-Mail: [info@wilmoreelectronics.com](mailto:info@wilmoreelectronics.com)  
Contact: J. L. Harris

## WINDSTREAM SUPPLY, INC.

13560 Morris Rd, Alpharetta, GA, U.S.A 30004  
Tel: (678) 351-8208 • 1-800-ALLTEL  
Fax: (678) 351-8597  
Web: [www.windstreamsupply.com](http://www.windstreamsupply.com)

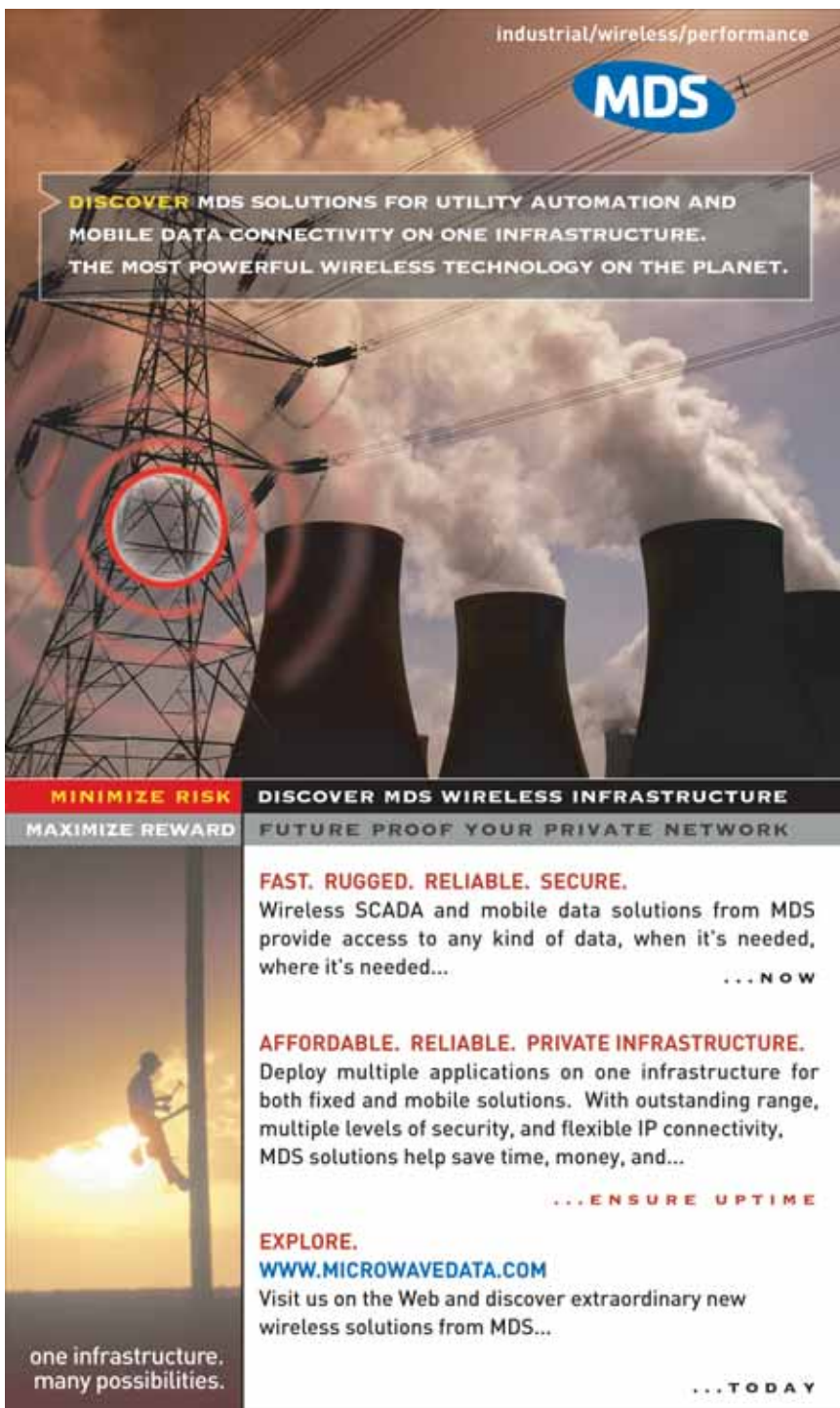
## WINOLA INDUSTRIAL INC.

R.R. #1 Box 1070, Factoryville, PA, U.S.A 18419  
Tel: (570) 378-3808 • Fax: (570) 378-2597  
Web: [www.winolaindustrial.com](http://www.winolaindustrial.com)  
E-Mail: [winola@epix.net](mailto:winola@epix.net)  
Contact: Jim McGlynn, G.m.  
See ad page 92

## Z

## ZENSOL AUTOMATION INC.

7075 Place Robert-Joncas #139  
St-Laurent, QC, CA H4M 2Z2  
Tel: (514) 333-3488 • Fax: (514) 333-3499  
Web: [www.zensol.com](http://www.zensol.com)  
E-Mail: [zensol@zensol.com](mailto:zensol@zensol.com)



Industrial/wireless/performance

**MDS**

**DISCOVER MDS SOLUTIONS FOR UTILITY AUTOMATION AND MOBILE DATA CONNECTIVITY ON ONE INFRASTRUCTURE. THE MOST POWERFUL WIRELESS TECHNOLOGY ON THE PLANET.**

**MINIMIZE RISK** **DISCOVER MDS WIRELESS INFRASTRUCTURE**  
**MAXIMIZE REWARD** **FUTURE PROOF YOUR PRIVATE NETWORK**

**FAST. RUGGED. RELIABLE. SECURE.**  
Wireless SCADA and mobile data solutions from MDS provide access to any kind of data, when it's needed, where it's needed...  
...NOW

**AFFORDABLE. RELIABLE. PRIVATE INFRASTRUCTURE.**  
Deploy multiple applications on one infrastructure for both fixed and mobile solutions. With outstanding range, multiple levels of security, and flexible IP connectivity, MDS solutions help save time, money, and...  
...ENSURE UPTIME

**EXPLORE.**  
[WWW.MICROWAVEDATA.COM](http://WWW.MICROWAVEDATA.COM)  
Visit us on the Web and discover extraordinary new wireless solutions from MDS...  
...TODAY

one infrastructure.  
many possibilities.

# PRODUCTS & SERVICES

## ABSORBENTS - INDUSTRIAL/MARINE

### SOLIDIFICATION PRODUCTS INTERNATIONAL INC.

Tel: (203) 484-9494 • (800) 758-3634  
Fax: (203) 484-9492  
www.oilbarriers.com

## ABSORBENTS - MATERIALS

### SOLIDIFICATION PRODUCTS INTERNATIONAL INC.

Tel: (203) 484-9494 • (800) 758-3634  
Fax: (203) 484-9492  
www.oilbarriers.com

## ABSORBENTS - OIL, PADS, ROLLS, BOOMS, SOCKS

### BROCKTON EQUIPMENT - SPILL- DAM INC.

Tel: (508) 583-7850 • Fax: (508) 583-5231  
www.spilldam.com

## ACCESS CONTROL

### ALLISON SYSTEMS, INC.

Tel: 262-522-9800 • Fax: 262-522-9600  
www.allisonsystems.com  
jmtavares@allisonsystems.com

## ACTUATORS

### DREHMO GMBH ( EMG )

Tel: +49 7634 551320 • Fax: +49 7634 5513 25  
www.drehmo.com  
karl.natterer@t-online.de

## AERIAL CABLE PLACING

### BAKER FINANCIAL RENTAL & LEASING

Tel: (804) 672-8191 • Fax: (804) 672-8190  
www.bakerleasing.com

### NESCO INC.

Tel: (260) 824-6340 • 1-800-252-0043  
Fax: (260) 824-6350  
www.nescosales.com • nesco@nescosales.com



### TEREX UTILITIES

Tel: (605) 882-5526 • Fax: (605) 882-5546  
www.terexutilities.com

## AERIAL DEVICES

### ALTEC INDUSTRIES, INC.

Tel: (205) 991-7733 • Fax: (205) 981-2522  
www.altec.com

### BAKER FINANCIAL RENTAL & LEASING

Tel: (804) 672-8191 • Fax: (804) 672-8190  
www.bakerleasing.com

### NESCO INC.

Tel: (260) 824-6340 • 1-800-252-0043  
Fax: (260) 824-6350  
www.nescosales.com • nesco@nescosales.com



### TEREX UTILITIES

Tel: (605) 882-5526 • Fax: (605) 882-5546  
www.terexutilities.com

## AERIAL LIFTS

### ALLIANCE EQUIPMENT CO.,INC

Tel: 800-383-2290 • Fax: 330-821-8375  
www.alliance-equipment.com  
debbie@alliance-equipment.com

### ALTEC INDUSTRIES, INC.

Tel: (205) 991-7733 • Fax: (205) 981-2522  
www.altec.com

### NESCO INC.

Tel: (260) 824-6340 • 1-800-252-0043  
Fax: (260) 824-6350  
www.nescosales.com • nesco@nescosales.com



### TEREX UTILITIES

Tel: (605) 882-5526 • Fax: (605) 882-5546  
www.terexutilities.com

## AERIAL LIFTS - RENTAL

### BAKER FINANCIAL RENTAL & LEASING

Tel: (804) 672-8191 • Fax: (804) 672-8190  
www.bakerleasing.com

### NESCO INC.

Tel: (260) 824-6340 • 1-800-252-0043  
Fax: (260) 824-6350  
www.nescosales.com • nesco@nescosales.com

## AERIAL LIFTS - SALES & SERVICES

### ALTEC INDUSTRIES, INC.

Tel: (205) 991-7733 • Fax: (205) 981-2522  
www.altec.com

### NESCO INC.

Tel: (260) 824-6340 • 1-800-252-0043  
Fax: (260) 824-6350  
www.nescosales.com • nesco@nescosales.com



### TEREX UTILITIES

Tel: (605) 882-5526 • Fax: (605) 882-5546  
www.terexutilities.com

## AERIAL LIFTS - TESTING & INSPECTION

### THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

## AERIAL LIFTS - TRUCK MOUNTED, INSULATED

### ALTEC INDUSTRIES, INC.

Tel: (205) 991-7733 • Fax: (205) 981-2522  
www.altec.com

### BAKER FINANCIAL RENTAL & LEASING

Tel: (804) 672-8191 • Fax: (804) 672-8190  
www.bakerleasing.com



### TEREX UTILITIES

Tel: (605) 882-5526 • Fax: (605) 882-5546  
www.terexutilities.com

## AERIAL PHOTOGRAPHY

### AEROTEC, LLC

Tel: (205) 428-6444 • Fax: (205) 428-2666  
www.aerotecusa.com  
jsimmons@aerotecusa.com

### LASER MAP IMAGE PLUS / GPR

Tel: (819) 647-3085  
www.lasemap.com • bobf@lasemap.com

Over 90% of temporary faults occur on laterals. Protecting laterals used to require you to make some concessions.

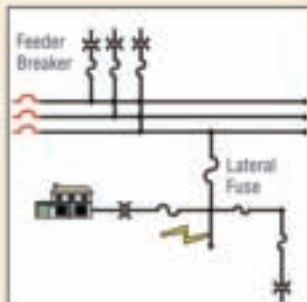
**But no more!**

## Introducing S&C's TripSaver™ Dropout Recloser

TripSaver protects laterals from temporary faults . . . and it protects the main feeder from momentary interruptions for faults on laterals.

### Do you trip the feeder breaker to save the lateral fuse during momentary interruptions?

Many utilities do. But with TripSaver, it's no longer necessary. You'll eliminate momentary interruptions on the main feeder. You'll improve your MAIFI without sacrificing your SAIFI.



### Do you let the lateral fuse operate to prevent momentary interruptions to the entire feeder?

Many utilities do. But with TripSaver, it's no longer necessary. You'll eliminate the permanent outage that occurs on the lateral when the fuse operates in response to a momentary fault. You'll improve your SAIFI without sacrificing your MAIFI.



15-kV Overhead Pole-Top Style TripSaver. Also offered in Branch Feeder Style. Both available at 25 kV

### What is TripSaver?

TripSaver is a unique, self-powered, electronically controlled vacuum interrupter that fits in a standard fuse cutout mounting. It has no batteries or other replaceable parts, no dial to set, no oil to test. It's far less costly than conventional reclosers.

TripSaver has an open-close-open-dropout operating sequence, with a 5-second reclosing time interval. It provides trip-free performance; the interrupter resets 5 seconds after dropout—ready for the next operation.

The first opening operation is fast: 1.5- to 2-cycle total clearing time. The second opening operation has a time-current characteristic equivalent to a 50K or 100K fuse link. TripSaver provides excellent coordination with the feeder breaker and downstream fuses.

### Interested?

To get all the details, visit our website. Or call your nearest S&C Sales Office. We can prepare coordination and protection studies that will show you all the benefits of applying TripSaver on your system.

[www.sandc.com/tse](http://www.sandc.com/tse)

Call toll-free  
800-621-5546

(In the United States and Canada)



Since 1911

**S&C ELECTRIC COMPANY**

*Specialists in Electric Power Switching and Protection*

Offices Worldwide: 6601 N. Ridge Blvd., Chicago, IL 60626-3997 • Phone: (1) 773.338.1000 • Fax: (1) 773.338.2562

©2006 S&C Electric Company 451-A0905

## W.I.R.E. SERVICES, A DIVISION OF MANITOBA HYDRO

Tel: (204) 480-5800 • Fax: (204) 480-5107  
www.wireservices.ca • info@wireservices.ca

### AERIAL SURVEY

#### AEROTEC, LLC

Tel: (205) 428-6444 • Fax: (205) 428-2666  
www.aerotecusa.com  
jsimmons@aerotecusa.com

#### LASER MAP IMAGE PLUS / GPR

Tel: (819) 647-3085  
www.lasemap.com • bobf@lasemap.com

## W.I.R.E. SERVICES, A DIVISION OF MANITOBA HYDRO

Tel: (204) 480-5800 • Fax: (204) 480-5107  
www.wireservices.ca • info@wireservices.ca

### AIR POLLUTION CONTROL: EQUIPMENT/SYSTEMS

#### HORIBA INSTRUMENTS, INC.

Tel: 949-250-4811 • Fax: 949-250-0924  
www.horiba.com  
bernadette.shahin@horiba.com

### ALARM - REPORTING SYSTEMS

#### CONTROL MICROSYSTEMS

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

### ALIGNMENT SYSTEMS - SHAFT

#### ALIGNMENT SUPPLIES INC.

Tel: 1-800-997-4467  
Fax: (419) 887-5893  
www.alignmentsupplies.com  
alignmentsupplies@solarstop.net

### ALIGNMENT SYSTEMS - TURBINE COMPONENTS

#### ALIGNMENT SUPPLIES INC.

Tel: 1-800-997-4467  
Fax: (419) 887-5893  
www.alignmentsupplies.com  
alignmentsupplies@solarstop.net

### AM/FM GIS

#### CHAPEL MAPPING

Tel: 8147230861 • Fax: 8147263026  
www.chapelmapping.com  
marketing@chapelmapping.com



#### ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

## NMT CORPORATION

Tel: 608/781-0850 • Fax: 608/781-3883  
www.nmt.com • tom.ringdahl@nmt.com



## OSMOSE UTILITIES SERVICES, INC.

Tel: (716) 882-5905 • Fax: (716) 882-7822  
www.osmoseutilities.com • calmeter@osmose.com

### AMR / AUTOMATIC METER READING EQUIPMENT

#### BADGER METER, INC.

Tel: (800) 876-3837 • Fax: (414) 371-5932  
www.badgermeter.com • flow@badgermeter.com

#### COMVERGE, INC.

Tel: (888) 565-5525 • Fax: (973) 884-3504  
www.comverge.com • sales@comverge.com



#### ELSTER ELECTRICITY, LLC

Tel: (919) 212-4800 • Fax: (919) 212-4801  
www.elsterelectricity.com

#### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com



#### SENSUS METERING SYSTEMS

Tel: 1-800-Meter-IT • Fax: (724) 439-7729  
www.sensus.com • askicon@sensus.com

#### TWACS BY DCSI

Tel: (314) 895-6400 • Fax: (314) 895-6543  
www.twacs.com • sales@twacs.com

### ANALYZERS - GAS-IN-OIL

#### KELMAN

Tel: (773) 944-0693 • Fax: (773) 944-0690  
www.kelman.co.uk

#### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

## WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

### ANALYZERS - OIL

#### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## ANALYZERS - PCB

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

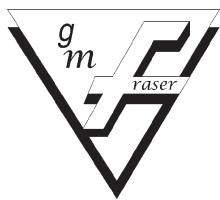
### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## ANALYZERS - POWER QUALITY



### GEORGE M. FRASER LTD (LACHUTE)

Tel: (450) 562-0771 • Fax: (450) 562-0441  
www.gmfraser.com • ralph@gmfraser.com

### GEORGE M. FRASER LTD (PICKERING)

Tel: (905) 428-8878 • Fax: (905) 428-3772  
www.gmfraser.com • sales@gmfraser.com

### INGINSEL-TECH

Tel: (442)2104138 • Fax: (442)2104138  
ingdha@hotmail.com

## ANCHORS - BOLTS

### BIRMINGHAM FASTENER MANUFACTURING

Tel: 800-695-3511 • Fax: 205-591-0244  
www.bhamfast.com • lcook@bhamfast.com

### EDSCO FASTENERS, INC.

Tel: 940-380-8000 • Fax: 940-380-1118  
www.edsco.com • dsearcy@edsco.com

### HUGHES BROTHERS INC.

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

## ANCHORS - FOUNDATION

### HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

## ANCHORS - POWER INSTALLED

### HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

## ANIMAL & WILD LIFE GUARDS



### INSULBOOT A DIV. OF PLASTIC DIP MOLDINGS

Tel: (215)766-2020 • Fax: (215)766-2222  
www.insulboot.com & www.wlop.us • sales@insulboot.com

### PHOENIX MFG LTD

Tel: (905) 878-2818 • Fax: (905) 878-0051  
www.phnxfmfg.com • sales@phnxfmfg.com

## ANNUNCIATORS

### AMETEK INC.

Tel: (610) 647-2121 • Fax: (610) 296-3412  
www.ametek.com

### PULEO ELECTRONICS INC.

Tel: 516-599-4875  
www.annunciator.com • joseph@puleoinc.com



### SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

## ARRESTERS

### HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## ARRESTERS, LIGHTNING, DISTRIBUTION - LINE TYPE

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## ARRESTERS, LIGHTNING, DISTRIBUTION - STATION

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## ARRESTERS, LIGHTNING, TRANSMISSION AC

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## ARRESTERS, LIGHTNING, TRANSMISSION DC

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## ASSET MANAGEMENT

### INCON POWER RELIABILITY PRODUCTS

Tel: (207) 283-0156 • 1-800-872-3455  
Fax: (207) 283-0158  
www.incon.com • twagner@incon.com

### INTERPRO CONSULTANTS INC.

Tel: (514) 321-4505 • Fax: (514) 321-0339  
www.interproconsulting.ca

### KEMA INC. (ENGLEWOOD)

Tel: (303) 708-9355 • Fax: (303) 708-9356  
www.kema.com  
info@kemaconsulting.com



### LOGICA CMG

Tel: (713) 954-7000 • Fax: (713) 785-0880  
www.logicacmg.com/us  
sue.wilson@logicacmg.com

### UAMSI, INC.

Tel: 720 635 8347 • Fax: 303 744 2128  
www.uamsi.com • mtao@uamsi.com

## AUTOMATED CALLING AND EMERGENCY NOTIFICATION

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## AUTOMATIC METER READING (AMR) - C&I

### COMVERGE, INC.

Tel: (888) 565-5525 • Fax: (973) 884-3504  
www.comverge.com • sales@comverge.com

### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com



### ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com



### SENSUS METERING SYSTEMS

Tel: 1-800-Meter-IT • Fax: (724) 439-7729  
www.sensus.com • askicon@sensus.com

## AUTOMATIC METER READING (AMR) - COMMUNICATIONS

### EUROPEAN TELEMETRY SERVICE LTD.

Tel: +370 650 33273  
www.connecty.lt • donatas@connecty.lt

### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com



### RADIUS US INC.

Tel: (952) 469-1135 • Fax: (952) 469-1050  
www.radius.net • info-us@radius.net



### SENSUS METERING SYSTEMS

Tel: 1-800-Meter-IT • Fax: (724) 439-7729  
www.sensus.com • askicon@sensus.com

### SILVER SPRING NETWORKS

Tel: 650-357-8770 • Fax: 650-357-8771  
www.silverspringnet.com  
lisamag@silverspringnet.com

### SMARTSYNCH, INC.

Tel: 601-362-1780 • Fax: 601-362-1787  
www.smartsynch.com  
llaird@smartsynch.com

### TANTALUS SYSTEMS CORP.

Tel: (604) 299-0458 • Fax: (604) 451-4111  
www.tantalus.com  
tantalussales@tantalus.com

## AUTOMATIC METER READING (AMR) EQUIPMENT

### BADGER METER, INC.

Tel: (800) 876-3837 • Fax: (414) 371-5932  
www.badgermeter.com • flow@badgermeter.com

### COMVERGE, INC.

Tel: (888) 565-5525 • Fax: (973) 884-3504  
www.comverge.com • sales@comverge.com



### ELSTER ELECTRICITY, LLC

Tel: (919) 212-4800 • Fax: (919) 212-4801  
www.elsterelectricity.com

## HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com



### SENSUS METERING SYSTEMS

Tel: 1-800-Meter-IT • Fax: (724) 439-7729  
www.sensus.com • askicon@sensus.com

## AUTOMATION PRODUCTS

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

### PROSOFT TECHNOLOGY

Tel: 661-716-5100  
www.prosoft-technology.com  
prosoft@prosoft-technology.com



### RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com



### SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

## AUTOMATION SYSTEMS

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

### OPEN SYSTEMS INTERNATIONAL, INC.

Tel: (763) 551-0559 • Fax: (763) 551-0750  
www.osii.com • sales@osii.com



### RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

### VIRELEC LTD.

Tel: (905) 569-8030 • Fax: (905) 569-6364  
www.virelec.com

## BAGS

### REEF INDUSTRIES

Tel: 713-507-4251 • Fax: 713-507-4295  
www.reefindustries.com  
ri@reefindustries.com

## BALANCE OF PLANT

### CONTROL CENTER LLC

Tel: 407-304-5200 • Fax: 407-304-5201  
www.controlcenter.net  
mthomas@controlcenter.net

## BATTERIES

### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

### BATTERIES - CONDUCTANCE/OHMIC TESTING

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

### BATTERIES - DC SUPPLY FOR SWITCHGEAR

### LA MARCHE MANUFACTURING

Tel: (847) 299-1188 • Fax: (847) 299-3061  
www.lamarchemfg.com

### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

### BATTERIES - DISCHARGE/MONITORING TEST SYSTEMS

### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

### BATTERIES - MAINTENANCE EQUIPMENT

### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

### BATTERIES - STATIONARY

### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

## BATTERIES - TELECOMMUNICATION

### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

### BATTERIES & ACCESSORIES

### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

### BATTERIES & ACCESSORIES - DC BATTERY CHARGERS

### BATTERIECOM

Tel: 514-667-1526 • Fax: 514-667-5944  
www.batteriecom.com  
lapointel@batteriecom.com

### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

### BATTERY - BACKUP SYSTEMS

### LA MARCHE MANUFACTURING

Tel: (847) 299-1188 • Fax: (847) 299-3061  
www.lamarchemfg.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

### BATTERY - DISCHARGE TEST SYSTEMS

### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

### BATTERY CAPACITY AND MONITORING EQUIPMENT

### ALBER

Tel: 954-623-6660 • Fax: 954-623-6671  
www.alber.com  
jennifer.stryker@alber.com

### PROG USA - PROGRAMMA

Tel: (407) 332-8678 • Fax: (407) 332-8894  
www.progusa.net • kime@progusa.net

### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

## BATTERY CHARGERS

### LA MARCHE MANUFACTURING

Tel: (847) 299-1188 • Fax: (847) 299-3061  
www.lamarchemfg.com

### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

### BAYONETS - POLE EXTENSIONS

### HUGHES BROTHERS INC.

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

## BILLING SOLUTIONS

### CHOICEPAY

Tel: 866 559 2455 • Fax: 918 477 3127  
www.choicepay.com  
jemison@choicepay.com



### ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

## BLOCKS - CONDUCTOR STRINGING

### WAGNER - SMITH CO. (THE)

Tel: (817) 447-8085 • Fax: (817) 447-8917  
www.wagnersmithequipment.com  
jwagner@wagnersmithequipment.com

## BODIES - TRUCK, UTILITY SERVICES



### TEREX UTILITIES

Tel: (605) 882-5526 • Fax: (605) 882-5546  
www.terexutilities.com

## BOILER - ACCESSORIES

### INDECK POWER EQUIPMENT COMPANY

Tel: (847) 541-8300 • 1-800-446-3325  
Fax: (847) 541-9984  
www.indeck.com  
info@indeck-power.com

### PENN SEPARATOR CORP.

Tel: (814) 849-7328 • 1-800-255-6558  
Fax: (814) 849-4510  
www.pennseparator.com  
info@pennseparator.com

**BOILER - CONTROLS****INDECK POWER EQUIPMENT COMPANY**

Tel: (847) 541-8300 • 1-800-446-3325  
 Fax: (847) 541-9984  
 www.indeck.com  
 info@indeck-power.com

**BOILER - DISTRIBUTORS & MANUFACTURERS****INDECK POWER EQUIPMENT COMPANY**

Tel: (847) 541-8300 • 1-800-446-3325  
 Fax: (847) 541-9984  
 www.indeck.com  
 info@indeck-power.com

**BOILER - EMERGENCY SERVICES****INDECK POWER EQUIPMENT COMPANY**

Tel: (847) 541-8300 • 1-800-446-3325  
 Fax: (847) 541-9984  
 www.indeck.com  
 info@indeck-power.com

**BOILER - REPAIRS****INDECK POWER EQUIPMENT COMPANY**

Tel: (847) 541-8300 • 1-800-446-3325  
 Fax: (847) 541-9984  
 www.indeck.com  
 info@indeck-power.com

**BOILER - TUBES****INDECK POWER EQUIPMENT COMPANY**

Tel: (847) 541-8300 • 1-800-446-3325  
 Fax: (847) 541-9984  
 www.indeck.com  
 info@indeck-power.com

**BOILER PARTS****INDECK POWER EQUIPMENT COMPANY**

Tel: (847) 541-8300 • 1-800-446-3325  
 Fax: (847) 541-9984  
 www.indeck.com  
 info@indeck-power.com

**BOILER SCALE REMOVAL****INDECK POWER EQUIPMENT COMPANY**

Tel: (847) 541-8300 • 1-800-446-3325  
 Fax: (847) 541-9984  
 www.indeck.com  
 info@indeck-power.com

**BOILERS****INDECK POWER EQUIPMENT COMPANY**

Tel: (847) 541-8300 • 1-800-446-3325  
 Fax: (847) 541-9984  
 www.indeck.com  
 info@indeck-power.com

**BOILERS - TRAILER MOUNTED****INDECK POWER EQUIPMENT COMPANY**

Tel: (847) 541-8300 • 1-800-446-3325  
 Fax: (847) 541-9984  
 www.indeck.com  
 info@indeck-power.com

**BOILERS (PACKAGED FIRETUBE & WATERTUBE) - LEASE, RENTAL, SALE****INDECK POWER EQUIPMENT COMPANY**

Tel: (847) 541-8300 • 1-800-446-3325  
 Fax: (847) 541-9984  
 www.indeck.com  
 info@indeck-power.com

**BOLTS - STAINLESS STEEL****RE-STEEL SUPPLY**

Tel: (215) 840-6541 • Fax: (610) 876-8248  
 jls@resteel.com

**BOOTS - BUS BAR**

**INSULBOOT A DIV. OF PLASTIC DIP MOLDINGS**

Tel: (215) 766-2020 • Fax: (215) 766-2222  
 www.insulboot.com & www.wlop.us • sales@insulboot.com

**PHOENIX MFG LTD**

Tel: (905) 878-2818 • Fax: (905) 878-0051  
 www.phnxmfg.com • sales@phnxmfg.com

**BOX PADS****HIGHLINE PRODUCTS**

Tel: (781) 736-0002 • Fax: (781) 647-3607  
 www.highlineproducts.com  
 jsullivan@highlineproducts.com

**BRACES - CROSSARM****HUGHES BROTHERS INC.**

Tel: (402) 643-2991 • Fax: (402) 643-2149  
 www.hughesbros.com • tim@hughesbros.com

**BRACKETS - ARRESTER****HUGHES BROTHERS INC.**

Tel: (402) 643-2991 • Fax: (402) 643-2149  
 www.hughesbros.com • tim@hughesbros.com

**BRACKETS - CABLE****HUGHES BROTHERS INC.**

Tel: (402) 643-2991 • Fax: (402) 643-2149  
 www.hughesbros.com • tim@hughesbros.com

**WINOLA INDUSTRIAL INC.**

Tel: (570) 378-3808 • Fax: (570) 378-2597  
 www.winolaindustrial.com • winola@epix.net

**BRACKETS - CAPACITOR****HUGHES BROTHERS INC.**

Tel: (402) 643-2991 • Fax: (402) 643-2149  
 www.hughesbros.com • tim@hughesbros.com

**BRACKETS - CLUSTER-MOUNT****HUGHES BROTHERS INC.**

Tel: (402) 643-2991 • Fax: (402) 643-2149  
 www.hughesbros.com • tim@hughesbros.com

**BRACKETS - CROSSARMS****HUGHES BROTHERS INC.**

Tel: (402) 643-2991 • Fax: (402) 643-2149  
 www.hughesbros.com • tim@hughesbros.com

**BRACKETS - CUTOUT****HUGHES BROTHERS INC.**

Tel: (402) 643-2991 • Fax: (402) 643-2149  
 www.hughesbros.com • tim@hughesbros.com

**BRACKETS - DISCONNECT SWITCH****HUGHES BROTHERS INC.**

Tel: (402) 643-2991 • Fax: (402) 643-2149  
 www.hughesbros.com • tim@hughesbros.com

**BRACKETS - EXTENSION****HUGHES BROTHERS INC.**

Tel: (402) 643-2991 • Fax: (402) 643-2149  
 www.hughesbros.com • tim@hughesbros.com

**BRACKETS - INSULATOR****HUGHES BROTHERS INC.**

Tel: (402) 643-2991 • Fax: (402) 643-2149  
 www.hughesbros.com • tim@hughesbros.com

**BRACKETS - POTHEAD****HUGHES BROTHERS INC.**

Tel: (402) 643-2991 • Fax: (402) 643-2149  
 www.hughesbros.com • tim@hughesbros.com

**BRACKETS - TRANSFORMER****HUGHES BROTHERS INC.**

Tel: (402) 643-2991 • Fax: (402) 643-2149  
 www.hughesbros.com • tim@hughesbros.com

**BRACKETS - TRANSFORMER, MOUNTING****HUGHES BROTHERS INC.**

Tel: (402) 643-2991 • Fax: (402) 643-2149  
 www.hughesbros.com • tim@hughesbros.com

**BUCKET LINERS - AERIAL LIFT ACCESSORIES****HASTINGS FIBERGLASS PRODUCTS INC.**

Tel: (269) 945-9541 • Fax: (269) 945-4623  
 www.hfgp.com • hasting@hfgp.com

## PRODUCTS & SERVICES

### PLASTIC COMPOSITES COMPANY

Tel: 260-484-3139 • Fax: 260-483-2532  
www.buckettruckparts.com • inpoec@aol.com

### BUILDING - PREFABRICATED

#### KOONTZ WAGNER

Tel: (574) 232-2051 • (800) 345-2051  
Fax: (574) 288-8510  
www.koontz-wagner.com

### BUILDING MODULAR - PREFABRICATED

#### KOONTZ WAGNER

Tel: (574) 232-2051 • (800) 345-2051  
Fax: (574) 288-8510  
www.koontz-wagner.com

### BUILDINGS - PRE-ENGINEERED

#### KOONTZ WAGNER

Tel: (574) 232-2051 • (800) 345-2051  
Fax: (574) 288-8510  
www.koontz-wagner.com

#### VIRELEC LTD.

Tel: (905) 569-8030 • Fax: (905) 569-6364  
www.virelec.com

### BUS BARS

#### ASSEMBLAGE PARO INC.

Tel: (819) 375-3503 • Fax: (819) 375-1331  
www.assemblageparo.com  
info@assemblageparo.com

# GENERATORS

## 125KW - 2200KW

# IN STOCK!

Trailer-Mounted Diesel Generators  
Capacities: 125 - 2200KW  
(Available Voltages Up To 4,160V)

Skid-Mounted Generators  
Capacities: 30 - 175KW

EMERGENCY SERVICE

24HR

EMERGENCY SERVICE

Call to ask about our extensive line of  
Industrial Power Plant Equipment available!

# INDECK

tel: 847.541.8300 / 800.446.3325  
fax: 847.541.9984  
email: info@indeck-power.com  
www.indeck.com

### BUSHINGS



#### PCORE ELECTRIC COMPANY, INC.

Tel: (585) 768-1200 • Fax: (585) 768-1212  
www.pcoreelectric.com



#### TRENCH LIMITED

Tel: (416) 298-8108 • Fax: (416) 298-2209  
www.trenchgroup.com  
tonyj@ca.trenchgroup.com

### BUSHINGS - CONDENSER-TYPE- CAST EPOXY



#### PCORE ELECTRIC COMPANY, INC.

Tel: (585) 768-1200 • Fax: (585) 768-1212  
www.pcoreelectric.com



#### TRENCH LIMITED

Tel: (416) 298-8108 • Fax: (416) 298-2209  
www.trenchgroup.com  
tonyj@ca.trenchgroup.com

### BUSHINGS - DISTRIBUTION APPARATUS (THROUGH 34.5KV)



#### PCORE ELECTRIC COMPANY, INC.

Tel: (585) 768-1200 • Fax: (585) 768-1212  
www.pcoreelectric.com



#### TRENCH LIMITED

Tel: (416) 298-8108 • Fax: (416) 298-2209  
www.trenchgroup.com  
tonyj@ca.trenchgroup.com

### BUSHINGS - HIGH VOLTAGE APPARATUS (OVER 34.5KV)



#### PCORE ELECTRIC COMPANY, INC.

Tel: (585) 768-1200 • Fax: (585) 768-1212  
www.pcoreelectric.com



#### TRENCH LIMITED

Tel: (416) 298-8108 • Fax: (416) 298-2209  
www.trenchgroup.com  
tonyj@ca.trenchgroup.com

### BUSWAYS

#### PARK ELECTRIC

Tel: (313) 366-2200 • Fax: (313) 366-1540  
www.parkdetroit.com

### CABLE - AERIAL, SELF-SUPPORTED

#### WINDSTREAM SUPPLY, INC.

Tel: (678) 351-8208 • 1-800-ALLTEL  
Fax: (678) 351-8597  
www.windstreamsupply.com

#### AMERICAN WIRE GROUP, INC.

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thhnman@aol.com

### CABLE - ALUMINUM

#### AMERICAN WIRE GROUP, INC.

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thhnman@aol.com

#### NEXANS

Tel: (905) 944-4300 • 1-800-268-9473  
Fax: (905) 944-4330  
www.nexansenergy.com  
rick.vascotto@nexans.com

### CABLE - COAXIAL

#### COMMScope BIMETALS

Tel: (704) 883-8015 • (800) 982-1708  
Fax: (704) 832-7548  
www.commscope.com  
bimetals@commscope.com

### CABLE - CONTROL

#### AMERICAN WIRE GROUP, INC.

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thhnman@aol.com

## COMMSCOPE BIMETALS

Tel: (704) 883-8015 • (800) 982-1708  
Fax: (704) 832-7548  
www.commscope.com  
bimetals@commscope.com

## CABLE - COPPER

### AMERICAN WIRE GROUP, INC.

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thhnman@aol.com

## COMMSCOPE BIMETALS

Tel: (704) 883-8015 • (800) 982-1708  
Fax: (704) 832-7548  
www.commscope.com  
bimetals@commscope.com

## CABLE - FIBER OPTIC

### AMERICAN WIRE GROUP, INC.

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thhnman@aol.com



### NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

## CABLE - GROUNDING

### COMMSCOPE BIMETALS

Tel: (704) 883-8015 • (800) 982-1708  
Fax: (704) 832-7548  
www.commscope.com  
bimetals@commscope.com

### HASTINGS FIBERGLASS PRODUCTS INC.

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hstings@hfgp.com

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## CABLE - HEIGHT METERS

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## CABLE - JUMPER

### HASTINGS FIBERGLASS PRODUCTS INC.

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hstings@hfgp.com

## CABLE - LENGTH METERS

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## CABLE - MULTIPLEX, SERVICE DROP

### AMERICAN WIRE GROUP, INC.

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thhnman@aol.com

### NEXANS

Tel: (905) 944-4300 • 1-800-268-9473  
Fax: (905) 944-4330  
www.nexansenergy.com  
rick.vascotto@nexans.com

## CABLE - POWER, JOINT - TERMINATION FILLING COMPOUNDS

### AMERICAN WIRE GROUP, INC.

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thhnman@aol.com

## CABLE - PREASSEMBLED CABLE DUCT

### NEXANS

Tel: (905) 944-4300 • 1-800-268-9473  
Fax: (905) 944-4330  
www.nexansenergy.com  
rick.vascotto@nexans.com

## CABLE - PULLING

### NESCO INC.

Tel: (260) 824-6340 • 1-800-252-0043  
Fax: (260) 824-6350  
www.nescosales.com • nesco@nescosales.com

## CABLE - RESTORATION

### NOVINIUM

Tel: (206) 529-4828 • Fax: (206) 774-9754  
www.novinium.com  
rich.brinton@novinium.com

## CABLE - SHIELDED

### MAGNETIC SHIELD CORP.

Tel: (630) 766-7800 • 1-800-304-5665  
Fax: (630) 766-2813  
www.magnetic-shield.com  
rdasso@magnetic-shield.com

## CABLE - SUBMARINE

### NEXANS

Tel: (905) 944-4300 • 1-800-268-9473  
Fax: (905) 944-4330  
www.nexansenergy.com  
rick.vascotto@nexans.com

## CABLE - TEMPORARY GROUND

### HASTINGS FIBERGLASS PRODUCTS INC.

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hstings@hfgp.com

## CABLE - UNDERGROUND, POLYMER-INSULATED

### NEXANS

Tel: (905) 944-4300 • 1-800-268-9473  
Fax: (905) 944-4330  
www.nexansenergy.com  
rick.vascotto@nexans.com

## CABLE - UNDERGROUND, RESIDENTIAL

### AMERICAN WIRE GROUP, INC.

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thhnman@aol.com

### NEXANS

Tel: (905) 944-4300 • 1-800-268-9473  
Fax: (905) 944-4330  
www.nexansenergy.com  
rick.vascotto@nexans.com

## CABLE - UNDERGROUND, STRAND BLOCK

### AMERICAN WIRE GROUP, INC.

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thhnman@aol.com

### NEXANS

Tel: (905) 944-4300 • 1-800-268-9473  
Fax: (905) 944-4330  
www.nexansenergy.com  
rick.vascotto@nexans.com

## CABLE ACCESSORIES - URD

### HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

### ORTON CONSULTING ENGINEERS

Tel: (604) 929-3234 • Fax: (604) 929-3802  
www.bc-alter.net/ice • heorton@msn.com

## CABLE FAULT LOCATING - EQUIPMENT

### HIPOTRONICS INC.

Tel: (845) 279-3644 • Fax: (845) 279-2467  
www.hipotronics.com  
sales@hipotronics.com

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

## CABLE TESTERS - COMMUNICATIONS

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## CABLES

### AMERICAN WIRE GROUP, INC.

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thhnman@aol.com

### APA CABLES & NETWORKS, INC.

Tel: 763.476.6866 • Fax: 763.475.8457  
www.apacn.com • sales@apacn.com

### NEXANS

Tel: (905) 944-4300 • 1-800-268-9473  
Fax: (905) 944-4330  
www.nexansenergy.com  
rick.vascotto@nexans.com

### TÜRK PRYSMIAN KABLO VE SIS-TEMLERİ A.

Tel: 0090 224 270 31 00 • Fax: 0090 224 270 30 42  
levent.tolgay@prysmian.com

## CABLES - BARE COPPER

### AMERICAN WIRE GROUP, INC.

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thhnman@aol.com

## CABLES - HIGH TEMPERATURE

### AMERICAN WIRE GROUP, INC.

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thhnman@aol.com

## CABLES - HIGH VOLTAGE

### AMERICAN WIRE GROUP, INC.

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thhnman@aol.com

### NEXANS

Tel: (905) 944-4300 • 1-800-268-9473  
Fax: (905) 944-4330  
www.nexansenergy.com  
rick.vascotto@nexans.com

### ORTON CONSULTING ENGINEERS

Tel: (604) 929-3234 • Fax: (604) 929-3802  
www.bc-alter.net/ice • heorton@msn.com

## CABLES - HIGH VOLTAGE - XLPE

### AMERICAN WIRE GROUP, INC.

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thhnman@aol.com

## CABLES - MEDIUM VOLTAGE

### AMERICAN WIRE GROUP, INC.

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thhnman@aol.com

### COMMSCOPE BIMETALS

Tel: (704) 883-8015 • (800) 982-1708  
Fax: (704) 832-7548  
www.commscope.com  
bimetals@commscope.com

### NEXANS

Tel: (905) 944-4300 • 1-800-268-9473  
Fax: (905) 944-4330  
www.nexansenergy.com  
rick.vascotto@nexans.com

### ORTON CONSULTING ENGINEERS

Tel: (604) 929-3234 • Fax: (604) 929-3802  
www.bc-alter.net/ice • heorton@msn.com

## CABLES - SPECIALTY

### AMERICAN WIRE GROUP, INC.

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thhnman@aol.com

### COMMSCOPE BIMETALS

Tel: (704) 883-8015 • (800) 982-1708  
Fax: (704) 832-7548  
www.commscope.com  
bimetals@commscope.com

## CALIBRATION

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

### MIKRON INFRARED INC.

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

## CALIBRATION - TEST AND MEASURE INSTRUMENT

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

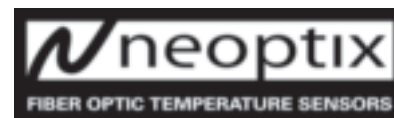
## CALIBRATION AND TEST EQUIPMENT

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com



### NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

## CALIBRATION SERVICES

### CANADIAN INSTRUMENTATION SERVICES GROUP

Tel: 1-800-419-3419 • Fax: 705-748-4559  
www.cisg.net  
marci.thompson@cisg.net

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### MIKRON INFRARED INC.

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

# Fiber Optic Temperature Sensors for Transformer Hot Spots

"Contact us right away for a competitive quotation on fiber optic temperature sensors"

- Michel Plourde, VP Sales and Marketing

CONTACT ME AT

1-418-687-2500

MPLOURDE@NEOPTIX.COM

Visit us at CIGRÉ 2006  
Paris - Booth 59

Neoptix, Inc. - 1415 Charest Ouest, suite 220 Québec, QC G1N 4N7 Canada

Phone: 1 (418) 687-2500 - Fax: 1 (418) 687-2524 - info@neoptix.com

www.neoptix.com

**CALIBRATORS - INSTRUMENT****FLIR SYSTEMS**

Tel: (978) 901-8000 • (800) 464-6372  
 Fax: (978) 901-8887  
[www.flirthermography.com](http://www.flirthermography.com) • [moreinfo@flir.com](mailto:moreinfo@flir.com)

**CALIBRATORS - METERS****FLIR SYSTEMS**

Tel: (978) 901-8000 • (800) 464-6372  
 Fax: (978) 901-8887  
[www.flirthermography.com](http://www.flirthermography.com) • [moreinfo@flir.com](mailto:moreinfo@flir.com)

**CAPACITORS - CONTROLS****BECKWITH ELECTRIC COMPANY**

Tel: (727) 544-2326 • Fax: (727) 546-0121  
[www.beckwithelectric.com](http://www.beckwithelectric.com)  
[marketing@beckwithelectric.com](mailto:marketing@beckwithelectric.com)

**COMVERGE, INC.**

Tel: (888) 565-5525 • Fax: (973) 884-3504  
[www.comverge.com](http://www.comverge.com) • [sales@comverge.com](mailto:sales@comverge.com)

**MAYSTEEL LLC**

Tel: (262) 251-1632 • 1-800-255-1247  
 Fax: (262) 251-8307  
[www.maysteel.com](http://www.maysteel.com)

**RCCS**

Tel: 781 848-0155 • Fax: 781 848-0540  
[rccscontrols.com](http://rccscontrols.com) • [rccs@aol.com](mailto:rccs@aol.com)

**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
[www.sandc.com](http://www.sandc.com) • [ssstrand@sandc.com](mailto:ssstrand@sandc.com)

**CAPACITORS - POWER FACTOR CORRECTION****PARK ELECTRIC**

Tel: (313) 366-2200 • Fax: (313) 366-1540  
[www.parkdetroit.com](http://www.parkdetroit.com)

**CAPACITORS - SWITCHES****MAYSTEEL LLC**

Tel: (262) 251-1632 • 1-800-255-1247  
 Fax: (262) 251-8307  
[www.maysteel.com](http://www.maysteel.com)

**CAPACITORS SERIES - TRANSMISSION****SIEMENS**

Global network of innovation

**SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
[www.usa.siemens.com](http://www.usa.siemens.com)

**CHEMICAL PRODUCTS****MERICHEM COMPANY**

Tel: (713) 428-5280 • Fax: (713) 921-4604  
[www.merichem.com](http://www.merichem.com)

**CIRCUIT BREAKERS****KELMAN**

Tel: (773) 944-0693 • Fax: (773) 944-0690  
[www.kelman.co.uk](http://www.kelman.co.uk)

**CIRCUIT BREAKERS - MEDIUM AND HIGH VOLTAGE****BELYEA COMPANY, INC.**

Tel: (610) 515-8775 • Fax: (610) 515-1263  
[www.belyeapower.com](http://www.belyeapower.com)  
[sales@belyeapower.com](mailto:sales@belyeapower.com)

**SIEMENS**

Global network of innovation

**SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
[www.usa.siemens.com](http://www.usa.siemens.com)

**CIRCUIT BREAKERS - MODIFICATION AND REPAIRS****BELYEA COMPANY, INC.**

Tel: (610) 515-8775 • Fax: (610) 515-1263  
[www.belyeapower.com](http://www.belyeapower.com)  
[sales@belyeapower.com](mailto:sales@belyeapower.com)

**SIEMENS**

Global network of innovation

**SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
[www.usa.siemens.com](http://www.usa.siemens.com)

**UTILITY RELAY COMPANY**

Tel: 440-708-1000 • Fax: 440-708-1177  
[www.utilityrelay.com](http://www.utilityrelay.com)  
[urcsales@utilityrelay.com](mailto:urcsales@utilityrelay.com)

**CIRCUIT BREAKERS - OIL****BELYEA COMPANY, INC.**

Tel: (610) 515-8775 • Fax: (610) 515-1263  
[www.belyeapower.com](http://www.belyeapower.com)  
[sales@belyeapower.com](mailto:sales@belyeapower.com)

**CIRCUIT BREAKERS - OUTDOOR****SIEMENS**

Global network of innovation

**SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
[www.usa.siemens.com](http://www.usa.siemens.com)

**CIRCUIT BREAKERS - SF6****SIEMENS**

Global network of innovation

**SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
[www.usa.siemens.com](http://www.usa.siemens.com)

**CIRCUIT BREAKERS - VACUUM****SIEMENS**

Global network of innovation

**SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
[www.usa.siemens.com](http://www.usa.siemens.com)

**CIRCUIT RECLOSERS, AUTOMATIC - THREE-PHASE****SIEMENS**

Global network of innovation

**SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
[www.usa.siemens.com](http://www.usa.siemens.com)

**CIRCUIT SWITCHERS****SIEMENS**

Global network of innovation

**SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
[www.usa.siemens.com](http://www.usa.siemens.com)

**CLAMPS - GROUND****HASTINGS FIBERGLASS PRODUCTS INC.**

Tel: (269) 945-9541 • Fax: (269) 945-4623  
[www.hfgp.com](http://www.hfgp.com) • [hastings@hfgp.com](mailto:hastings@hfgp.com)

**CLAMPS - HOT LINE****HASTINGS FIBERGLASS PRODUCTS INC.**

Tel: (269) 945-9541 • Fax: (269) 945-4623  
[www.hfgp.com](http://www.hfgp.com) • [hastings@hfgp.com](mailto:hastings@hfgp.com)

**HUBBELL CANADA LP**

Tel: (905) 839-1138 • Fax: (905) 831-6353  
[www.hubbellpowersystems.ca](http://www.hubbellpowersystems.ca)  
[infohps@hubbell-canada.com](mailto:infohps@hubbell-canada.com)

**RICHARDS MANUFACTURING CO. SALES INC.**

Tel: (973) 371-1771 • Fax: (973) 371-9538  
[www.richards-mfg.com](http://www.richards-mfg.com)  
[richardsales@richards-mfg.com](mailto:richardsales@richards-mfg.com)

## CLAMPS - STIRRUP

### RICHARDS MANUFACTURING CO. SALES INC.

Tel: (973) 371-1771 • Fax: (973) 371-9538  
www.richards-mfg.com  
richardsales@richards-mfg.com

## CLAMPS - TEMPORARY GROUND

### HASTINGS FIBERGLASS PRODUCTS INC.

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hstings@hfgp.com

## CLEANERS - JANITORIAL

### CHEMTON INDUSTRIES

Tel: (773) 775-4373  
kareo1@worldnet.att.net

## CLOCKS AND TIME DISPLAYS



### SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

## CLOTHING

### EUCLID GARMENT MFG. CO.

Tel: (330) 673-7413 • Fax: (330) 673-0228  
www.euclidgarment.com  
hfeischmann@euclidgarment.com



### RANPRO, INC.

Tel: (519) 426-1094 • Fax: (519) 426-5313  
www.ranpro.com • ranpro@ranpro.com

## CLOTHING - FLAME RESISTANT

### BULWARK PROTECTIVE APPAREL,

Tel: (615) 565-5000 • Fax: (615) 882-2481  
www.bulwark.com  
shana\_witherow@vfc.com



### CARHARTT, INC.

Tel: 1-800-217-2895  
Fax: (313) 271-6428  
www.carharttfr.com  
industrial\_sales@carhartt.com



### RANPRO, INC.

Tel: (519) 426-1094 • Fax: (519) 426-5313  
www.ranpro.com • ranpro@ranpro.com

### WESTEX INC.

Tel: (773) 523-7000 • Fax: (773) 523-0965  
www.westexinc.com  
menright@westexinc.com

## COATINGS - ANIMAL GUARD



### INSULBOOT A DIV. OF PLASTIC DIP MOLDINGS

Tel: (215) 766-2020 • Fax: (215) 766-2222  
www.insulboot.com & www.wlop.us • sales@insulboot.com

### PHOENIX MFG LTD

Tel: (905) 878-2818 • Fax: (905) 878-0051  
www.phnxmfg.com • sales@phnxmfg.com

## COATINGS - BUS BAR

### PHOENIX MFG LTD

Tel: (905) 878-2818 • Fax: (905) 878-0051  
www.phnxmfg.com • sales@phnxmfg.com

## COATINGS - CORROSION PREVENTION



### LOCWELD INC.

Tel: (450) 659-9661 • Fax: (450) 444-3111  
www.locweld.com • info@locweld.com

## COMMUNICATION SYSTEMS

### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca

### AMETEK POWER INSTRUMENTS

Tel: 954-344-9822 • Fax: 954-340-6676  
www.pulsartech.com  
sales.pulsar@ametek.com

### MICROWAVE DATA SYSTEMS, INC.

Tel: (585) 242-9600 • Fax: (585) 242-9620  
www.microwavedata.com  
sales@microwavedata.com

### RFL ELECTRONICS INC.

Tel: (973) 334-3100 • Fax: (973) 334-3863  
www.rflect.com



### RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

### TANTALUS SYSTEMS CORP.

Tel: (604) 299-0458 • Fax: (604) 451-4111  
www.tantalus.com  
tantalussales@tantalus.com

## COMMUNICATION SYSTEMS - PROTECTIVE RELAYS

### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca

### RFL ELECTRONICS INC.

Tel: (973) 334-3100 • Fax: (973) 334-3863  
www.rflect.com



### RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## COMPRESSION/CRIMP TERMINALS

### RICHARDS MANUFACTURING CO. SALES INC.

Tel: (973) 371-1771 • Fax: (973) 371-9538  
www.richards-mfg.com  
richardsales@richards-mfg.com

## COMPUTER CONTROLS AND AUTOMATION



### RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com



### SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

## VIRELEC LTD.

Tel: (905) 569-8030 • Fax: (905) 569-6364  
www.virelec.com

## COMPUTERS - EQUIPMENT



## SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

## COMPUTERS - RUGGED MOBILE

## MOBILEDATAFORCE™ INC.

Tel: (208) 384-1200 • Fax: (208) 384-1201  
www.mobiledataforce.com



## RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

## COMPUTERS - SOFTWARE

## INDUS INTERNATIONAL

Tel: (770) 952-8444 • Fax: (770) 955-2977  
www.indus.com • sales@indus.com



## ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

## MILSOFT INTEGRATED SOLUTIONS INC.

Tel: (325) 695-1642 • 1-800-344-5647  
Fax: (325) 690-0338  
www.milsoft.com • stephen@milsoft.com

## OPVANTEK, INC.

Tel: 215.968.7790  
www.opvantek.com • sales@opvantek.com

## COMPUTERS-WIRELESS

## MOBILEDATAFORCE™ INC.

Tel: (208) 384-1200 • Fax: (208) 384-1201  
www.mobiledataforce.com

## CONDITION MONITORING

## MIKRON INFRARED INC.

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

## CONDITION MONITORING EQUIPMENT

## ACADEMY OF INFRARED TRAINING

Tel: (604) 516-6646 • Fax: (604) 516-6674  
www.infraredtraining.net  
airt@infraredtraining.net

## FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

## INCON POWER RELIABILITY PRODUCTS

Tel: (207) 283-0156 • 1-800-872-3455  
Fax: (207) 283-0158  
www.incon.com • twagner@incon.com

## MIKRON INFRARED INC.

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

## CONDUCTOR, STEEL - COPPER-CLAD

## COMMSCOPE BIMETALS

Tel: (704) 883-8015 • (800) 982-1708  
Fax: (704) 832-7548  
www.commscope.com  
bimetals@commscope.com

## WAGNER - SMITH CO. (THE)

Tel: (817) 447-8085 • Fax: (817) 447-8917  
www.wagnersmithequipment.com  
jwagner@wagnersmithequipment.com

## CONDUIT - PLASTIC

## CARLON

Tel: 800-322-7566 • Fax: 216-831-5579  
www.carlon.com  
lori.franceschini@carlon.com

## CONDUIT - POLYETHYLENE, CONTINUOUS

## ARNCO CORPORATION

Tel: 800-321-7914 • Fax: 440-322-1001  
www.arnccorp.com • info@arnccorp.com

## CONNECTORS - COMPRESSION, DISTRIBUTION

## HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

## RICHARDS MANUFACTURING CO. SALES INC.

Tel: (973) 371-1771 • Fax: (973) 371-9538  
www.richards-mfg.com  
richardsales@richards-mfg.com

## THE HOMAC COMPANIES

Tel: 386-677-9110 • Fax: 386-673-5497  
www.homac.com • sales@homac.com

## CONNECTORS - COMPRESSION, TRANSMISSION



## CICAME ENERGIE INC.

Tel: (450) 679-7778 • Fax: (450) 679-9432  
info@cicame-energie.ca

## HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

## IMPLO TECHNOLOGIES

Tel: (905) 513-9084 • Fax: (905) 513-9083  
www.implotech.ca • info@implotech.ca

## CONNECTORS - DEADEND, TRANSMISSION



## CICAME ENERGIE INC.

Tel: (450) 679-7778 • Fax: (450) 679-9432  
info@cicame-energie.ca

## IMPLO TECHNOLOGIES

Tel: (905) 513-9084 • Fax: (905) 513-9083  
www.implotech.ca • info@implotech.ca

## CONNECTORS - ELECTRICAL

## ASSEMBLAGE PARO INC.

Tel: (819) 375-3503 • Fax: (819) 375-1331  
www.assemblageparo.com  
info@assemblageparo.com

## HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

## K & H INDUSTRIES INC.

Tel: (716) 549-0135 • Fax: (716) 549-2725  
www.khindustries.com • khind@msn.com



POSITRONIC  
Connectors & Distribution

## POSITRONIC INDUSTRIES INC.

Tel: (417) 866-2322 • (800) 641-4054  
Fax: (417) 866-4115  
www.connectpositronic.com  
info@connectpositronic.com

## RICHARDS MANUFACTURING CO. SALES INC.

Tel: (973) 371-1771 • Fax: (973) 371-9538  
www.richards-mfg.com  
richardsales@richards-mfg.com

## CONNECTORS - FIBER OPTIC



### RUGGED COM INC.

Tel: (905) 856-5288 • Fax: (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

## CONNECTORS - FLEXIBLE

### ASSEMBLAGE PARO INC.

Tel: (819) 375-3503 • Fax: (819) 375-1331  
www.assemblageparo.com  
info@assemblageparo.com

## CONNECTORS - GROUNDING

### ASSEMBLAGE PARO INC.

Tel: (819) 375-3503 • Fax: (819) 375-1331  
www.assemblageparo.com  
info@assemblageparo.com

### IMPLO TECHNOLOGIES

Tel: (905) 513-9084 • Fax: (905) 513-9083  
www.implotech.ca • info@implotech.ca



### POSITRONIC INDUSTRIES INC.

Tel: (417) 866-2322 • Fax: (800) 641-4054  
Fax: (417) 866-4115  
www.connectpositronic.com  
info@connectpositronic.com

## CONNECTORS - MANUFACTURING



### POSITRONIC INDUSTRIES INC.

Tel: (417) 866-2322 • Fax: (800) 641-4054  
Fax: (417) 866-4115  
www.connectpositronic.com  
info@connectpositronic.com

## CONNECTORS - PLUG-IN



### POSITRONIC INDUSTRIES INC.

Tel: (417) 866-2322 • Fax: (800) 641-4054  
Fax: (417) 866-4115  
www.connectpositronic.com  
info@connectpositronic.com

## CONNECTORS - SOLDER



### POSITRONIC INDUSTRIES INC.

Tel: (417) 866-2322 • Fax: (800) 641-4054  
Fax: (417) 866-4115  
www.connectpositronic.com  
info@connectpositronic.com

### RICHARDS MANUFACTURING CO. SALES INC.

Tel: (973) 371-1771 • Fax: (973) 371-9538  
www.richards-mfg.com  
richardsales@richards-mfg.com

## CONNECTORS - SUBSTATION

### HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

### IMPLO TECHNOLOGIES

Tel: (905) 513-9084 • Fax: (905) 513-9083  
www.implotech.ca • info@implotech.ca

## CONNECTORS, UNDERGROUND - TERMINATING

### POLARIS CONNECTORS

Tel: 877-584-5847 • Fax: 727-546-0540  
www.polarisconnectors.com  
nmoraitis@polarisconnectors.com

### RICHARDS MANUFACTURING CO. SALES INC.

Tel: (973) 371-1771 • Fax: (973) 371-9538  
www.richards-mfg.com  
richardsales@richards-mfg.com

## CONSTRUCTION - EQUIPMENT & SUPPLIES



### RANPRO, INC.

Tel: (519) 426-1094 • Fax: (519) 426-5313  
www.ranpro.com • ranpro@ranpro.com

## CONSTRUCTION - POWER LINE AND SUBSTATION - 25 TO 735KV

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## CONSTRUCTION AND PROJECT ENGINEERING

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## CONSTRUCTION SERVICES

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## CONSULTANTS - POWER QUALITY

### ELECTROTEK CONCEPTS

Tel: 1-865-470-9222 • Fax: 865-470-9223  
www.electrotek.com • jolechiw@wptinc.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## CONSULTANTS - SCADA/EMS ENGINEERING

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## CONSULTANTS - SUBSTATION DESIGN & ENGINEERING

### DIS-TRAN PACKAGED SUBSTATIONS, LLC

Tel: (318) 448-0274 • Fax: (318) 445-7240  
www.distran.com

### J & Y ENGINEERING SERVICES INC.

Tel: (440) 891-1130 • Fax: (440) 891-1131  
www.jyengineering.com  
johnston@jyengineering.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## CONSULTANTS - T&D ENGINEERING

### EMS INTERNATIONAL CONSULTING, INC.

Tel: 706-549-8155  
maheshsapat@gmail.com



experience you can trust

### KEMA INC.

Tel: (781) 273-5700 • Fax: (781) 229-4867  
www.kema.com  
info@kemaconsulting.com

### KEMA INC. (ENGLEWOOD)

Tel: (303) 708-9355 • Fax: (303) 708-9356  
www.kema.com  
info@kemaconsulting.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## CONSULTANTS - UNDERGROUND AND UNDERWATER CABLE

### IMCORP-POWER CABLE RELIABILITY

Tel: 860-427-7620  
www.imcorpotech.com • sales@imcorpotech.com

### ORTON CONSULTING ENGINEERS

Tel: (604) 929-3234 • Fax: (604) 929-3802  
www.bc-alter.net/ice • heorton@msn.com

## CONSULTING

### ACADEMY OF INFRARED TRAINING

Tel: (604) 516-6646 • Fax: (604) 516-6674  
www.infraredtraining.net  
airt@infraredtraining.net

### ED MALEMEZIAN CONSULTING, INC.

Tel: 772-286-9831 • Fax: 772-286-8954  
www.emalemezeian.com • ed@emalemezeian.com

### GDS ASSOCIATES, INC.

Tel: (770) 425-8100 • Fax: (770) 426-0303  
www.gdsassociates.com

### GLOBE RESEARCH ASSOCIATES

Tel: 1-951-684-4443  
globe-research@juno.com

### HIGH ENERGY CONSULTING, INC.

Tel: (651) 264-3150  
www.highenergyconsulting.com  
mike@highenergyconsulting.com



### ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

### KEMA INC. (ENGLEWOOD)

Tel: (303) 708-9355 • Fax: (303) 708-9356  
www.kema.com  
info@kemaconsulting.com



### LOGICA CMG

Tel: (713) 954-7000 • Fax: (713) 785-0880  
www.logicacmg.com/us  
sue.wilson@logicacmg.com

## CONSULTING ENGINEERING

### A.I. ORLOFF ELECTRICAL ENGINEER

Tel: 949-261-5491 • Fax: 949-261-6541  
www.members.com/aol/ocsee • ocsoft@aol.com

### KINETRICS

Tel: 416.207.6000 • Fax: 416.207.6532  
www.kinectrics.com  
cheryl.tasker-shaw@kinectrics.com

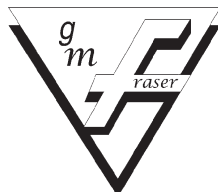
## REALTIME UTILITY ENGINEERS

Tel: 800-297-1478, ext. 100 • Fax: 608-664-2009  
www.realtimeutilityengineers.com  
mmitchell@realtimeutilityengineers.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## CONTACTORS - DC/AC



### GEORGE M. FRASER LTD (LACHUTE)

Tel: (450) 562-0771 • Fax: (450) 562-0441  
www.gmfraser.com • ralph@gmfraser.com

### GEORGE M. FRASER LTD (PICKERING)

Tel: (905) 428-8878 • Fax: (905) 428-3772  
www.gmfraser.com • sales@gmfraser.com

## CONTAINMENTS, INDUSTRIAL & RADIOLOGICAL

### SOLIDIFICATION PRODUCTS INTERNATIONAL INC.

Tel: (203) 484-9494 • (800) 758-3634  
Fax: (203) 484-9492  
www.oilbarriers.com

## CONTRACT SERVICES - FIELD INVENTORY - AUDIT SERVICES



### DAVEY TREE EXPERT COMPANY (THE) (KENT)

Tel: (330) 673-9511 • 1-800-447-1667  
Fax: (330) 673-0702  
www.davey.com  
steve.marshall@davey.com

### DAVEY TREE EXPERT COMPANY (THE) (LIVEMORE)

Tel: (925) 443-1723 • Fax: (925) 443-1751  
www.davey.com  
larry.abernathy@davey.com

## CONTRACTORS - MECHANICAL

### WINOLA INDUSTRIAL INC.

Tel: (570) 378-3808 • Fax: (570) 378-2597  
www.winolaindustrial.com • winola@epix.net

## CONTROL - ROOM DISPLAY SYSTEMS

### BARCO USUAL SOLUTIONS, LLC

Tel: (678) 475-8000 • Fax: (678) 475-8100  
www.barco.com

## CONTROL CENTER DESIGN

### MAUELL CORPORATION

Tel: 717.432.8686 • Fax: 717.432.8688  
www.mauell-us.com • sales@mauell-us.com

## CONTROL PANELS

### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca

### FILNOR INC.

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

### KOONTZ WAGNER

Tel: (574) 232-2051 • (800) 345-2051  
Fax: (574) 288-8510  
www.koontz-wagner.com

## CONTROL SYSTEM



### RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

### VIRELEC LTD.

Tel: (905) 569-8030 • Fax: (905) 569-6364  
www.virelec.com

## CONTROL TRANSFORMERS

### AECI SPECIALTY TRANSFORMER

Tel: 501.570.2388 • Fax: 501.570.2986  
www.aeci.com • tbaldwin@aeci.com

## CONTROLLERS/CONTROLS - PROGRAMMABLE

### INDUCTIVE COMPONENTS MFG. INC.

Tel: (513) 752-4731 • Fax: (513) 752-4738  
www.icmlinc.com



### SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

## CONTROLS

### INDUCTIVE COMPONENTS MFG. INC.

Tel: (513) 752-4731 • Fax: (513) 752-4738  
www.icmlinc.com

**CONTROLS - CONTINUOUS AND POINT LEVEL**



**AUTOMATION PRODUCTS INC. - DYNATROL® DIVISION MAXROY**

Tel: (713) 869-0361 • 1-800-231-2067  
Fax: (713) 869-7332  
www.dynatrolusa.com

**CONTROLS - DATA-LOGGING**

**INDUCTIVE COMPONENTS MFG. INC.**

Tel: (513) 752-4731 • Fax: (513) 752-4738  
www.icmlinc.com

**CONTROLS - ELECTRIC MOTORS**

**FILNOR INC.**

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

**CONTROLS - LIQUID LEVEL**



**AUTOMATION PRODUCTS INC. - DYNATROL® DIVISION MAXROY**

Tel: (713) 869-0361 • 1-800-231-2067  
Fax: (713) 869-7332  
www.dynatrolusa.com

**CONTROLS - LOAD**

**FILNOR INC.**

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

**TWACS BY DCSI**

Tel: (314) 895-6400 • Fax: (314) 895-6543  
www.twacs.com • sales@twacs.com

**CONTROLS - LTC TRANSFORMER**

**INCON POWER RELIABILITY PRODUCTS**

Tel: (207) 283-0156 • 1-800-872-3455  
Fax: (207) 283-0158  
www.incon.com • twagner@incon.com

**INDUCTIVE COMPONENTS MFG. INC.**

Tel: (513) 752-4731 • Fax: (513) 752-4738  
www.icmlinc.com

**CONTROLS - PEAK DEMAND**



**NEOPTIX FIBER OPTIC SENSORS**

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

**TWACS BY DCSI**

Tel: (314) 895-6400 • Fax: (314) 895-6543  
www.twacs.com • sales@twacs.com

**CONTROLS - RADIO ALARM-REPORTING AND CONTROL**

**MICROWAVE DATA SYSTEMS, INC.**

Tel: (585) 242-9600 • Fax: (585) 242-9620  
www.microwavedata.com  
sales@microwavedata.com

**CONTROLS - REGULATOR TAP CHANGER**

**ABB INC.**

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca

**INDUCTIVE COMPONENTS MFG. INC.**

Tel: (513) 752-4731 • Fax: (513) 752-4738  
www.icmlinc.com

**CONTROLS - REMOTE**

**CONTROL MICROSYSTEMS**

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

**CONTROLS - SUPERVISORY**

**CONTROL MICROSYSTEMS**

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

**INDUCTIVE COMPONENTS MFG. INC.**

Tel: (513) 752-4731 • Fax: (513) 752-4738  
www.icmlinc.com

**CONTROLS - TAP CHANGER**

**ABB INC.**

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca

**BECKWITH ELECTRIC COMPANY**

Tel: (727) 544-2326 • Fax: (727) 546-0121  
www.beckwithelectric.com  
marketing@beckwithelectric.com

**INDUCTIVE COMPONENTS MFG. INC.**

Tel: (513) 752-4731 • Fax: (513) 752-4738  
www.icmlinc.com

**CONTROLS - TELEMETERING**

**CONTROL MICROSYSTEMS**

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

**CONTROLS - TEMPERATURE**



**FISO TECHNOLOGIES**

Tel: (418) 688-8065 • Fax: (418) 688-8067  
www.fiso.com • info@fiso.com



**KRENZ & COMPANY INCORPORATED**

Tel: (262) 255-2310 • Fax: (262) 255-2904  
www.krenzvent.com • krenz@krenzvent.com



**LUXTRON**

Tel: (408) 727-1600 • Fax: (408) 727-1677  
www.luxtron.com • info@luxtron.com



**NEOPTIX FIBER OPTIC SENSORS**

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

**CONVERTERS - DC/DC**

**WILMORE ELECTRONICS COMPANY, INC.**

Tel: (919) 732-9351 • Fax: (919) 732-9359  
www.wilmoreelectronics.com  
info@wilmoreelectronics.com

**CONVERTERS - FREQUENCY**

**FALCON ELECTRIC, INC.**

Tel: 626-962-7770 • Fax: 626-962-7720  
www.falconups.com • sales@falconups.com

**COOLERS - TRANSFORMER OIL**

**ENERFIN INC**

Tel: 450 443-3366  
www.enerfin-inc.com  
sgelinas@enerfin-inc.com



### NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

### CORONA EQUIPMENT - SALES

### OFIL LTD

Tel: +972-8 9 407 953 • Fax: +972-8 9 407 873  
www.ofilsystems.com • ofil@ofilsystems.com

### OX CREEK ENERGY

Tel: (608) 589-5510 • (800) 531-6232  
Fax: (608) 589-5509  
www.ox-creek-energy.com • oxcreek@maqs.net

### CRANES

### ALTEC INDUSTRIES, INC.

Tel: (205) 991-7733 • Fax: (205) 981-2522  
www.altec.com

### CRANES - HYDRAULIC

### ALTEC INDUSTRIES, INC.

Tel: (205) 991-7733 • Fax: (205) 981-2522  
www.altec.com

### CRANES - MANUFACTURERS/ DISTRIBUTORS

### ALTEC INDUSTRIES, INC.

Tel: (205) 991-7733 • Fax: (205) 981-2522  
www.altec.com

### NESCO INC.

Tel: (260) 824-6340 • 1-800-252-0043  
Fax: (260) 824-6350  
www.nescosales.com • nesco@nescosales.com

### CROSSARMS

### DIS-TRAN PACKAGED SUBSTATIONS, LLC

Tel: (318) 448-0274 • Fax: (318) 445-7240  
www.distran.com

### HUGHES BROTHERS INC.

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com



# The Perfect Match:

## the AECI Specialty Transformer and your utility!

If you're serious about reducing system losses, this product is perfect. Small but powerful, this transformer is the right choice for all of your small load applications (and it has a great personality too!).

With no load losses as low as 8 watts and its small size, the AECI Specialty Transformer is the ideal, cost-effective power source for security lighting, capacitor racks, and billboard lighting.

To find out more about making a "Connection" (matching our product and your system lines), please contact us at (800) 643-8776 or one of the other ways shown below.



**AECI Specialty  
Transformer**

Little Rock, AR USA  
800.451.8061  
tbaldwin@aeci.com  
www.aeci.com

## PRODUCTS & SERVICES

### PENNINGTON CROSSARM CO.

Tel: (541) 343-6968 • Fax: (541) 343-7843  
www.crossarms.com

### CROSSARMS - FIBERGLASS - REINFORCED

### HUGHES BROTHERS INC.

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

### CROSSARMS, WOOD - LAMINATED

### HUGHES BROTHERS INC.

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

### PENNINGTON CROSSARM CO.

Tel: (541) 343-6968 • Fax: (541) 343-7843  
www.crossarms.com

### CROSSARMS, WOOD - SOLID

### DIS-TRAN PACKAGED SUBSTATIONS, LLC

Tel: (318) 448-0274 • Fax: (318) 445-7240  
www.distran.com

### HUGHES BROTHERS INC.

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

### PENNINGTON CROSSARM CO.

Tel: (541) 343-6968 • Fax: (541) 343-7843  
www.crossarms.com

### CUBICLES - SWITCHGEAR

### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca

### CURRENT SENSORS

### OHIO SEMITRONICS INC.

Tel: (614) 777-1005 • 1-800-537-0277  
Fax: (614) 777-4511  
www.ohiosemi.com  
sales@ohiosemitronics.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### CUTOUTS, FUSED - OPEN, LOADBREAK

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### CUTOUTS, LOADBREAK

### HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### DAMPERS - VIBRATION

### HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

### DATA ACQUISITION SYSTEMS

### CONTROL MICROSYSTEMS

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

# Itron

### ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

### MIKRON INFRARED INC.

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

### TWACS BY DCSI

Tel: (314) 895-6400 • Fax: (314) 895-6543  
www.twacs.com • sales@twacs.com

# Reliable SCADA starts here.

Control Microsystems offers the high quality  
SCADA products needed for critical applications.

- **RTUs** – Proven in the harshest environments, **SCADAPack™** RTUs offer native DNP3, Modbus and IEC60870-5 (101 and 103). With embedded SOE and high speed data concentrator functions the SCADAPackES and ER units are ideal for your substation automation and control applications.
- **SCADA Management Software** – **ClearSCADA™** Taking the industry by storm this SCADA management platform is the latest tool for the development of modern SCADA applications including infrastructure monitoring, alarming, control and security.

And like everything else from Control Microsystems, it is all backed by the best warranty, customer support and delivery lead times in the business.

**CONTROL  
MICROSYSTEMS**

www.controlmicrosystems.com



## DEADENDS WOOD, LAMINATED

### HUGHES BROTHERS INC.

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

### PENNINGTON CROSSARM CO.

Tel: (541) 343-6968 • Fax: (541) 343-7843  
www.crossarms.com

## DEMAND SIDE MANAGEMENT



### KEMA INC.

Tel: (781) 273-5700 • Fax: (781) 229-4867  
www.kema.com  
info@kemaconsulting.com

## DETECTORS - CABLE FAULT LOCATING

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

## DETECTORS - FAULT

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com



### SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

### THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

## DETECTORS - GAS

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

### KELMAN

Tel: (773) 944-0693 • Fax: (773) 944-0690  
www.kelman.co.uk

## DETECTORS - INFRARED

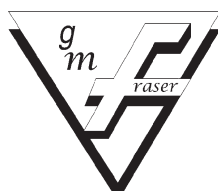
### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

### MIKRON INFRARED INC.

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

## DETECTORS - PARTIAL DISCHARGE



### GEORGE M. FRASER LTD (LACHUTE)

Tel: (450) 562-0771 • Fax: (450) 562-0441  
www.gmfraser.com • ralph@gmfraser.com

### GEORGE M. FRASER LTD (PICKERING)

Tel: (905) 428-8878 • Fax: (905) 428-3772  
www.gmfraser.com • sales@gmfraser.com

### OX CREEK ENERGY

Tel: (608) 589-5510 • (800) 531-6232  
Fax: (608) 589-5509  
www.ox-creek-energy.com • oxcreek@maqs.net

## DETECTORS - VOLTAGE



### CICAME ENERGIE INC.

Tel: (450) 679-7778 • Fax: (450) 679-9432  
info@cicame-energie.ca

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### THIES ELECTRICAL DISTRIBUTING CO.

Tel: (519) 621-2524 • Fax: (519) 740-1203  
www.djinfo.com/tedc • thiestedcca@aol.com

## DIAGNOSTIC EQUIPMENT



### NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

## DIGGERS - DERRICKS

### ALTEC INDUSTRIES, INC.

Tel: (205) 991-7733 • Fax: (205) 981-2522  
www.altec.com

### BAKER FINANCIAL RENTAL & LEASING

Tel: (804) 672-8191 • Fax: (804) 672-8190  
www.bakerleasing.com

### NESCO INC.

Tel: (260) 824-6340 • 1-800-252-0043  
Fax: (260) 824-6350  
www.nescosales.com • nesco@nescosales.com



### TEREX UTILITIES

Tel: (605) 882-5526 • Fax: (605) 882-5546  
www.terexutilities.com

## DIRECT LOAD CONTROL



### CANNON TECHNOLOGIES

Tel: (402) 498-2797 • Fax: (402) 498-4437  
www.cannontech.com • doug@cannontech.com

### COMVERGE, INC.

Tel: (888) 565-5525 • Fax: (973) 884-3504  
www.comverge.com • sales@comverge.com

### REGENCY TECHNOLOGIES INC.

Tel: (317) 543-9740 • 1-800-376-7356  
Fax: (317) 543-9746  
www.regencytec.com • regencytech@juno.com

## ISPATCH SYSTEMS - COMPUTER-AIDED

### INTERGRAPH CORP

Tel: (256) 730-8558 • Fax: (256) 730-8995  
www.intergraph.com • jpaddock@ingr.com

## DISTRIBUTION AUTOMATION - COMMUNICATIONS

### MICROWAVE DATA SYSTEMS, INC.

Tel: (585) 242-9600 • Fax: (585) 242-9620  
www.microwavedata.com  
sales@microwavedata.com



### RADIUS US INC.

Tel: (952) 469-1135 • Fax: (952) 469-1050  
www.radius.net • info-us@radius.net

## PRODUCTS & SERVICES

### RFL ELECTRONICS INC.

Tel: (973) 334-3100 • Fax: (973) 334-3863  
www.rflect.com



### RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

### TANTALUS SYSTEMS CORP.

Tel: (604) 299-0458 • Fax: (604) 451-4111  
www.tantalus.com  
tantalussales@tantalus.com

### DISTRIBUTION AUTOMATION SYSTEMS

### AECI SPECIALTY TRANSFORMER

Tel: 501.570.2388 • Fax: 501.570.2986  
www.aeci.com • tbaldwin@aeci.com



### ITRON

Tel: 1-800-635-5461 • Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

### KEMA INC. (ENGLEWOOD)

Tel: (303) 708-9355 • Fax: (303) 708-9356  
www.kema.com • info@kemaconsulting.com



### RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com



### SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

### TELVENT

Tel: (713) 939-9399 • Fax: (713) 939-7424  
www.telvent.com  
info.usa@telvent.abengoa.com

### VIRELEC LTD.

Tel: (905) 569-8030 • Fax: (905) 569-6364  
www.virelec.com

### DISTRIBUTION MANAGEMENT SYSTEMS

### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com

### OPEN SYSTEMS INTERNATIONAL, INC.

Tel: (763) 551-0559 • Fax: (763) 551-0750  
www.osii.com • sales@osii.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

### TELVENT

Tel: (713) 939-9399 • Fax: (713) 939-7424  
www.telvent.com  
info.usa@telvent.abengoa.com

### DOCUMENT MANAGEMENT & WORKFLOW SOLUTIONS

### COMSQUARED SYSTEMS, INC.

Tel: 800-592-3766  
www.comsquared.com • sales@comsquared.com

### DUCT PLUGS

### PARK ELECTRIC

Tel: (313) 366-2200 • Fax: (313) 366-1540  
www.parkdetroit.com

### ELECTRIC ENERGY - PRODUCERS

### GENTE CA

Tel: 58-212-237.0711 • Fax: 58-212-235.2497  
jperez@genteca.com.ve

### ELECTRIC PRODUCTS - MANUFACTURERS

### DUO SUDAMERICANA SRL

Tel: +598 2 4008126 • Fax: +598 2 4008127  
jrpardo@adinet.com.uy

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

### PW ASSOCIATES

Tel: 704/588-7426 • Fax: 704/588-7434  
pwassociates.org  
pwassociates1@aol.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### ELECTRIC UTILITY



### ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

### TIAM ENGINEERING INC

Tel: 905-201-9590  
ktabarzadi@yahoo.ca

### ELECTRICAL - ELECTRONIC MANUFACTURERS

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### ELECTRICAL APPARATUS

### ECI COMPOSITES

Tel: 450-430-1181 • Fax: 450-433-1888  
www.eci-co.com • info@eci-co.com

### IMPACT POWER, INC.

Tel: (949) 477-9198 • Fax: (949) 477-9195  
www.impactpwr.com • sales@impactpwr.com

### ELECTRICAL APPARATUS - MAINTENANCE

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### ELECTRICAL BOXES

### K & H INDUSTRIES INC.

Tel: (716) 549-0135 • Fax: (716) 549-2725  
www.khindustries.com • khind@msn.com

### ELECTRICAL DEVICES

### K & H INDUSTRIES INC.

Tel: (716) 549-0135 • Fax: (716) 549-2725  
www.khindustries.com • khind@msn.com

### ELECTRICAL SERVICES

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### W.I.R.E. SERVICES, A DIVISION OF MANITOBA HYDRO

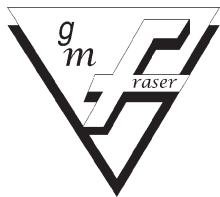
Tel: (204) 480-5800 • Fax: (204) 480-5107  
www.wireservices.ca • info@wireservices.ca

### ELECTRICAL SOFTWARE

### ESA, INC.

Tel: 5036555059  
www.easypower.com • sales@easypower.com

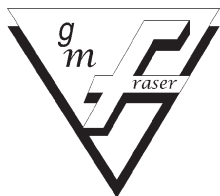
## ELECTRICITY - EQUIPMENT & SUPPLIES



### GEORGE M. FRASER LTD (LACHUTE)

Tel: (450) 562-0771 • Fax: (450) 562-0441  
www.gmfraser.com • ralph@gmfraser.com

## ELECTRICITY - HIGH VOLTAGE - EQUIPMENT TESTING



### GEORGE M. FRASER LTD (LACHUTE)

Tel: (450) 562-0771 • Fax: (450) 562-0441  
www.gmfraser.com • ralph@gmfraser.com

## ELECTRICITY - PRODUCTS & EQUIPMENT



### RANPRO, INC.

Tel: (519) 426-1094 • Fax: (519) 426-5313  
www.ranpro.com • ranpro@ranpro.com

## EMERGENCY & HAZARDOUS LOCATION LIGHTS

### K & H INDUSTRIES INC.

Tel: (716) 549-0135 • Fax: (716) 549-2725  
www.khindustries.com • khind@msn.com

## EMERGENCY LIGHTING

### HD ELECTRIC COMPANY

Tel: (847) 473-4980 • Fax: (847) 473-4981  
www.hdelectriccompany.com  
khiggins@hdelectriccompany.com

### K & H INDUSTRIES INC.

Tel: (716) 549-0135 • Fax: (716) 549-2725  
www.khindustries.com • khind@msn.com

## EMISSION - ANALYSIS

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

## ENCLOSURES - CABINETS

### EUROBEX USA INC

Tel: 1-800-363-2423 • Fax: 1-888-594-9595  
www.eurobex.com • bob.dion@eurobex.com

## ENCLOSURES - FIBERGLASS-REINFORCED

### HIGHLINE PRODUCTS

Tel: (781) 736-0002 • Fax: (781) 647-3607  
www.highlineproducts.com  
jsullivan@highlineproducts.com

## ENCLOSURES - METAL

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

### EUROBEX MANUFACTURING LTD.

Tel: 800-363-2423 • Fax: 450-979-4626  
www.eurobex.com • info@eurobex.com

## ENCLOSURES - METERING EQUIPMENT

### MAYSTEEL LLC

Tel: (262) 251-1632 • 1-800-255-1247  
Fax: (262) 251-8307  
www.maysteel.com

### PARK ELECTRIC

Tel: (313) 366-2200 • Fax: (313) 366-1540  
www.parkdetroit.com

## ENCLOSURES - NEMA TYPE

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Fax: Industrial Park Drive  
farmington hills, mi 48335-2880



### MILBANK MFG. CO.

Tel: (816) 483-5314 • Fax: (816) 483-6357  
www.milbankmfg.com • sales@milbankmfg.com

## ENCLOSURES - POLYMER CONCRETE

### HIGHLINE PRODUCTS

Tel: (781) 736-0002 • Fax: (781) 647-3607  
www.highlineproducts.com  
jsullivan@highlineproducts.com

## ENCLOSURES, CRT MONITOR

### MAGNETIC SHIELD CORP.

Tel: (630) 766-7800 • 1-800-304-5665  
Fax: (630) 766-2813  
www.magnetic-shield.com  
rdasso@magnetic-shield.com

## ENERGY MANAGEMENT

### GDS ASSOCIATES, INC.

Tel: (770) 425-8100 • Fax: (770) 426-0303  
www.gdsassociates.com

### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com

### QUIMLAB

Tel: 507-613-6435  
diegomendez@cwpanama.net

## ENERGY MANAGEMENT SYSTEMS

### COMVERGE, INC.

Tel: (888) 565-5525 • Fax: (973) 884-3504  
www.comverge.com • sales@comverge.com



### HUNT POWER L.P.

Tel: (866) 944-4868 • Fax: (214) 978-8949  
www.huntpower.com

### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com



### ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

### OPEN SYSTEMS INTERNATIONAL, INC.

Tel: (763) 551-0559 • Fax: (763) 551-0750  
www.osii.com • sales@osii.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## ENGINEERING

### AEROTEC, LLC

Tel: (205) 428-6444 • Fax: (205) 428-2666  
www.aerotecusa.com  
jsimmons@aerotecusa.com

## PRODUCTS & SERVICES

### DIS-TRAN PACKAGED SUBSTATIONS, LLC

Tel: (318) 448-0274 • Fax: (318) 445-7240  
www.distran.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## ENGINEERING - CONSULTANTS

### C. H. GUERSENY & COMPANY

Tel: 405.416.8100 • Fax: 405.416.8111  
www.chguernsey.com  
justin.proctor@chguernsey.com

### ENERNEX CORPORATION

Tel: 865-691-5540 • Fax: 865-691-5046  
www.uwig.org • sandy@uwig.org

### GDS ASSOCIATES, INC.

Tel: (770) 425-8100 • Fax: (770) 426-0303  
www.gdsassociates.com

### POWER CORE ENGINEERING, INC.

Tel: 414/263-3455  
ctisser-pce@juno.com

### SARGENT & LUNDY LLC

Tel: 312-269-7792 • Fax: 312-269-9697  
www.sargentlundy.com  
kenneth.d.simpson@sargentlundy.com

### TORDONATO ENERGY CONSULTANTS

Tel: 423-622-7555  
www.tordonatoenergy.com  
dtordonato@tordonatoenergy.com

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## ENGINEERING - CONSULTANTS - CONSTRUCTION

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## ENGINEERING - DESIGN

### AEROTEC, LLC

Tel: (205) 428-6444 • Fax: (205) 428-2666  
www.aerotecusa.com  
jsimmons@aerotecusa.com

### INTERGRAPH CORP

Tel: (256) 730-8558 • Fax: (256) 730-8995  
www.intergraph.com • jpaddock@ingr.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## ENGINEERING - PROFESSIONAL SERVICES

### GDS ASSOCIATES, INC.

Tel: (770) 425-8100 • Fax: (770) 426-0303  
www.gdsassociates.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### W.I.R.E. SERVICES, A DIVISION OF MANITOBA HYDRO

Tel: (204) 480-5800 • Fax: (204) 480-5107  
www.wireservices.ca • info@wireservices.ca

## ENGINEERING - SERVICES

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### W.I.R.E. SERVICES, A DIVISION OF MANITOBA HYDRO

Tel: (204) 480-5800 • Fax: (204) 480-5107  
www.wireservices.ca • info@wireservices.ca

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## ENGINEERING - SERVICES - T & D

### AEROTEC, LLC

Tel: (205) 428-6444 • Fax: (205) 428-2666  
www.aerotecusa.com  
jsimmons@aerotecusa.com

### COMMONWEALTH ASSOCIATES, INC.

Tel: 517-788-3000 • Fax: 517-788-3003  
www.cai-engr.com • caiinfo@cai-engr.com

### LEHMAN ENGINEERING COMPANY

Tel: 804-360-9288  
www.lehmanengineering.com  
info@lehmanengineering.com

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

## WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191

www.weidmann-acti.com  
service@weidmann-acti.com

## WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## ENGINEERING - STRUCTURAL

### J & Y ENGINEERING SERVICES INC.

Tel: (440) 891-1130 • Fax: (440) 891-1131

www.jyengineering.com  
gjohnston@jyengineering.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562

www.sandc.com • sstrand@sandc.com

## ENVIRONMENTAL - MONITORING

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372

Fax: (978) 901-8887

www.flirthermography.com • moreinfo@flir.com

## ENVIRONMENTAL SERVICES

### AEROTEC, LLC

Tel: (205) 428-6444 • Fax: (205) 428-2666

www.aerotecusa.com  
jsimmons@aerotecusa.com



## GREEN-PORT ENVIRONMENTAL MANAGERS (ONTARIO)

Tel: (905) 799-2777 • Fax: (905) 458-1702

www.green-port.com • mitt@green-port.com

## EQUIPMENT - RENTAL

### NESCO INC.

Tel: (260) 824-6340 • 1-800-252-0043

Fax: (260) 824-6350

www.nescosales.com • nesco@nescosales.com

### WAGNER - SMITH CO. (THE)

Tel: (817) 447-8085 • Fax: (817) 447-8917

www.wagnersmithequipment.com  
jwagner@wagnersmithequipment.com

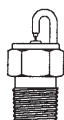
## ETHERNET

### GARRETTCOM INC.

Tel: (510) 438-9071 • Fax: (510) 438-9072

www.garrettcom.com • mktg@garrettcom.com

## EVAPORATIVE COOLING EQUIPMENT



**COLD FOG<sup>by</sup>**  
**ATOMIZING**  
**SYSTEMS INC**

### ATOMIZING SYSTEMS INC.

Tel: (201) 447-1222 • (800) 265-3364

Fax: (201) 447-6932

www.coldfog.com • info@coldfog.com

## FANS



### KRENZ & COMPANY INCORPORATED

Tel: (262) 255-2310 • Fax: (262) 255-2904

www.krenzvent.com • krenz@krenzvent.com

## FANS - INSPECTION, REPAIRS & PARTS



### KRENZ & COMPANY INCORPORATED

Tel: (262) 255-2310 • Fax: (262) 255-2904

www.krenzvent.com • krenz@krenzvent.com

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577

www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698

www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549

www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034

www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577

www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014

www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191

www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## FANS - TRANSFORMER-COOLING



### KRENZ & COMPANY INCORPORATED

Tel: (262) 255-2310 • Fax: (262) 255-2904

www.krenzvent.com • krenz@krenzvent.com

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577

www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698

www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549

www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034

www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577

www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014

www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191

www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## FASTENERS

### WINOLA INDUSTRIAL INC.

Tel: (570) 378-3808 • Fax: (570) 378-2597

www.winolaindustrial.com • winola@epix.net

## FASTENERS - SPECIAL

### WINOLA INDUSTRIAL INC.

Tel: (570) 378-3808 • Fax: (570) 378-2597

www.winolaindustrial.com • winola@epix.net

## FAULT ANALYSIS

### SHANDONG KEHUI ELECTRIC CO.,LTD

Tel: 253.678.2661 • Fax: 206.350.6482

www.kehui.com/eabout.htm  
tim@tichenassociates.com

**FIBER OPTIC - SENSORS**



**FISO TECHNOLOGIES**

Tel: (418) 688-8065 • Fax: (418) 688-8067  
www.fiso.com • info@fiso.com



**LUXTRON**

Tel: (408) 727-1600 • Fax: (408) 727-1677  
www.luxtron.com • info@luxtron.com



**NEOPTIX FIBER OPTIC SENSORS**

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

**FIBER OPTIC C & A - CABLE PULLERS**

**NESCO INC.**

Tel: (260) 824-6340 • 1-800-252-0043  
Fax: (260) 824-6350  
www.nescosales.com • nesco@nescosales.com

**FIBER OPTIC COMMUNICATIONS**

**AMETEK INC.**

Tel: (610) 647-2121 • Fax: (610) 296-3412  
www.ametek.com

**H&L INSTRUMENTS**

Tel: 603-964-1818 • Fax: 603-964-8881  
www.hlinstruments.com  
jlandman@hlinstruments.com

**RFL ELECTRONICS INC.**

Tel: (973) 334-3100 • Fax: (973) 334-3863  
www.rflect.com



**RUGGED COM INC.**

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

**FIBER OPTIC: COMPONENTS AND ACCESSORIES**

**GEORGIA UNDERGROUND AND SUPPLY, INC.**

Tel: 1-800-245-8339 • Fax: 1-404-675-7998  
www.georgiaunderground.com  
sales@georgiaunderground.com



**SCHWEITZER ENGINEERING LABORATORIES INC.**

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

**FIBER OPTICS**

**WINDSTREAM SUPPLY, INC.**

Tel: (678) 351-8208 • 1-800-ALLTEL  
Fax: (678) 351-8597  
www.windstreamsupply.com



**FISO TECHNOLOGIES**

Tel: (418) 688-8065 • Fax: (418) 688-8067  
www.fiso.com • info@fiso.com



**NEOPTIX FIBER OPTIC SENSORS**

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com



**RUGGED COM INC.**

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

**FIBERGLASS**

**HASTINGS FIBERGLASS PRODUCTS INC.**

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hasting@hfgp.com

**FIBERGLASS - PIPE, TANK**

**HASTINGS FIBERGLASS PRODUCTS INC.**

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hasting@hfgp.com

**FIELD AUTOMATION**

**GARRETTCOM INC.**

Tel: (510) 438-9071 • Fax: (510) 438-9072  
www.garrettcom.com • mktg@garrettcom.com

**INFOWAVE SOFTWARE**

Tel: 604-473-3600 or 1-800-INFOWAVE (463-6928) • Fax: 604-473-3699  
www.infowave.com • info@infowave.com

**INTERGRAPH CORP**

Tel: (256) 730-8558 • Fax: (256) 730-8995  
www.intergraph.com • jpaddock@ingr.com



*Enterprising Solutions™*

**MAPFRAME CORPORATION**

Tel: (214) 741-2264 • Fax: (214) 741-2283  
www.mapframe.com • info@mapframe.com



**POWER - MINIMAX**

Tel: (651) 251-3005 • Fax: (651) 251-3006  
www.powelminimax.com  
jeff.baumer@powelminimax.com



**RUGGED COM INC.**

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

**FIELD INSTALLATION SERVICES**

**OLAMETER INC.**

Tel: (905) 841-1167 • (800) 903-7003  
Fax: (905) 841-1288  
www.olameter.com • info@olameter.com

**FILTRATION EQUIPMENT**

**FILMAX INC**

Tel: 865-408-0030 • Fax: 865-408-0303  
www.filmmaxinc.com • sales@filmmaxinc.com

**FILTRATION SYSTEMS - OIL**



**VELCON FILTERS, INC.**

Tel: (719) 531-5855 • 1-800-531-0180  
Fax: (719) 531-5690  
www.velcon.com • vfsales@velcon.com

**FIRE - PROTECTION EQUIPMENT**



**RANPRO, INC.**

Tel: (519) 426-1094 • Fax: (519) 426-5313  
www.ranpro.com • ranpro@ranpro.com

## FLAME RESISTANT CLOTHING

### BULWARK PROTECTIVE APPAREL,

Tel: (615) 565-5000 • Fax: (615) 882-2481  
www.bulwark.com  
shana\_witherow@vfc.com

### GRANSFORS BRUKS (CANADA) INC.

Tel: (905) 681-3993 • 1-866-922-2978  
Fax: (905) 681-0391  
www.gransfors.ca • canada@gransfors.ca



### RANPRO, INC.

Tel: (519) 426-1094 • Fax: (519) 426-5313  
www.ranpro.com • ranpro@ranpro.com

## FLOODLIGHTS (SEE ALSO LIGHTS)

### GOLIGHT INC

Tel: (308) 278-3131 • Fax: (308) 278-2525  
www.golight.com  
cbunstock@golight.com

### P&R TECHNOLOGIES INC.

Tel: (503) 292-8682 • 1-800-722-8078  
Fax: (503) 292-8697  
www.pr-tech.com • prtech@pr-tech.com

## FLOWMETERS

### CONTROL MICROSYSTEMS

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

## FUSELINK - CUTOUTS

### HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

## FUSES

### FUSES UNLIMITED

Tel: 818 786-8111 • Fax: 818 786 -8222  
www.fusesunlimited.com  
cleiker@fusesunlimited.com

## GAGES - SOLID LEVEL



### AUTOMATION PRODUCTS INC. - DYNATROL® DIVISION MAXROY

Tel: (713) 869-0361 • 1-800-231-2067  
Fax: (713) 869-7332  
www.dynatrolusa.com

## GAS DETECTION

### OX CREEK ENERGY

Tel: (608) 589-5510 • (800) 531-6232  
Fax: (608) 589-5509  
www.ox-creek-energy.com • oxcreek@maqs.net

## GAS MONITORS

### ENMET CORPORATION

Tel: 734-761-1270 • Fax: 734-761-3220  
www.enmet.com • info@enmet.com

### KELMAN

Tel: (773) 944-0693 • Fax: (773) 944-0690  
www.kelman.co.uk

## GAS MONITORS - PERMANENT SYSTEMS

### KELMAN

Tel: (773) 944-0693 • Fax: (773) 944-0690  
www.kelman.co.uk

## GAS RECLAIMING CARTS - SF6

### LIMCO

Tel: 918-445-4300 • Fax: 918-445-2210  
www.limcoairepair.com  
katiep@limcoairepair.com

## GAUGES - LIQUID

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

## WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## GAUGES - PRESSURE



### FISO TECHNOLOGIES

Tel: (418) 688-8065 • Fax: (418) 688-8067  
www.fiso.com • info@fiso.com

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## GAUGES - TEMPERATURE



### FISO TECHNOLOGIES

Tel: (418) 688-8065 • Fax: (418) 688-8067  
www.fiso.com • info@fiso.com



### NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## GAUGES - VACUUM

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## GEARBOXES

### ESKRIDGE

Tel: 913-782-1238 • Fax: 913-782-4206  
www.eskridgeinc.com  
sales@eskridgeinc.com

## GENERATOR AND TRANSFORMER

### KELMAN

Tel: (773) 944-0693 • Fax: (773) 944-0690  
www.kelman.co.uk

## GENERATOR SETS



### MAGELLAN AEROSPACE CORPORATION (FORMERLY ORENDA AEROSPACE)

Tel: (905) 673-3250 • Fax: (905) 678-1538  
www.magellanroi.com  
information@orenda.com ron tingle sales & business

## GENERATOR SETS - SALES, RENTAL AND SERVICES

### BELYEA COMPANY, INC.

Tel: (610) 515-8775 • Fax: (610) 515-1263  
www.belyeapower.com  
sales@belyeapower.com

## GENERATORS - GAS



### MAGELLAN AEROSPACE CORPORATION (FORMERLY ORENDA AEROSPACE)

Tel: (905) 673-3250 • Fax: (905) 678-1538  
www.magellanroi.com  
information@orenda.com ron tingle sales & business

## GENERATORS - PORTABLE



### TEREX UTILITIES

Tel: (605) 882-5526 • Fax: (605) 882-5546  
www.terexutilities.com

## GENERATORS - POWER

### INDECK POWER EQUIPMENT COMPANY

Tel: (847) 541-8300 • 1-800-446-3325  
Fax: (847) 541-9984  
www.indeck.com  
info@indeck-power.com

## GENERATORS - RENTAL

### INDECK POWER EQUIPMENT COMPANY

Tel: (847) 541-8300 • 1-800-446-3325  
Fax: (847) 541-9984  
www.indeck.com  
info@indeck-power.com

## GENERATORS - STEAM

### INDECK POWER EQUIPMENT COMPANY

Tel: (847) 541-8300 • 1-800-446-3325  
Fax: (847) 541-9984  
www.indeck.com  
info@indeck-power.com

## GIS - SOFTWARE

### INTERGRAPH CORP

Tel: (256) 730-8558 • Fax: (256) 730-8995  
www.intergraph.com • jpaddock@ingr.com

## JEFORZ SOFTWARE INC.

Tel: 604-629-0211 • Fax: 604-629-0218  
www.jeforz.com • nami@jeforz.com

## MOBILEDATAFORCE™ INC.

Tel: (208) 384-1200 • Fax: (208) 384-1201  
www.mobiledataforce.com



## POWEL - MINIMAX

Tel: (651) 251-3005 • Fax: (651) 251-3006  
www.powelminimax.com  
jeff.baumer@powelminimax.com

## TELVENT

Tel: (713) 939-9399 • Fax: (713) 939-7424  
www.telvent.com  
info.usa@telvent.abengoa.com

## UAI, INC.

Tel: 256-705-5150 • Fax: 256-722-8607  
www.uai.com • joe.johnson@uai.com

## GLOBAL POSITIONING SYSTEMS - MAPPING SYSTEMS

## AEROTEC, LLC

Tel: (205) 428-6444 • Fax: (205) 428-2666  
www.aerotecusa.com  
jsimmons@aerotecusa.com

## GEOSPATIAL EXPERTS

Tel: 303.255-2908  
www.geospatialexperts.com  
linda@geospatialexperts.com

## W.I.R.E. SERVICES, A DIVISION OF MANITOBA HYDRO

Tel: (204) 480-5800 • Fax: (204) 480-5107  
www.wireservices.ca • info@wireservices.ca

## GLOBAL POSITIONING SYSTEMS - SUBSTATION SYNCHRONIZATION

## SYMMETRICOM

Tel: 978-232-1422 • Fax: 978-927-4099  
www.symmttm.com  
sbennett@symmetricom.com

## GLOVES

## BCL GLOVE LTD.

Tel: 418-852-2098 • (888) 225-4268  
Fax: 418-852-3330  
www.bclglove.ca • info@ganteriebcl.ca

## GLOVES - RUBBER



## CICAME ENERGIE INC.

Tel: (450) 679-7778 • Fax: (450) 679-9432  
info@cicame-energie.ca

## GLOVES - TESTING

## THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

## GRIPS - CABLE-PULLING

## HASTINGS FIBERGLASS PRODUCTS INC.

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hstings@hfgp.com

## GROUND RODS - COPPERWELD

## COMMScope BIMETALS

Tel: (704) 883-8015 • (800) 982-1708  
Fax: (704) 832-7548  
www.commscope.com  
bimetals@commscope.com

## GROUNDING - EQUIPMENT



## CICAME ENERGIE INC.

Tel: (450) 679-7778 • Fax: (450) 679-9432  
info@cicame-energie.ca

## ERICO, INC.

Tel: 1-800-677-9089 • Fax: 1-800-677-8131  
www.erico.com • lmodic@erico.com

## HASTINGS FIBERGLASS PRODUCTS INC.

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hstings@hfgp.com

## HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

## GUARDS - ANIMAL AND BIRDS



## INSULBOOT A DIV. OF PLASTIC DIP MOLDINGS

Tel: (215) 766-2020 • Fax: (215) 766-2222  
www.insulboot.com & www.wlop.us • sales@insulboot.com

## HANDHOLES - PLASTIC

## HIGHLINE PRODUCTS

Tel: (781) 736-0002 • Fax: (781) 647-3607  
www.highlineproducts.com  
jsullivan@highlineproducts.com

## HARDWARE - POLELINE

## HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

## HUGHES BROTHERS INC.

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

## RICHARDS MANUFACTURING CO. SALES INC.

Tel: (973) 371-1771 • Fax: (973) 371-9538  
www.richards-mfg.com  
richardsales@richards-mfg.com

## HARDWARE - TRANSMISSION LINE

## HUGHES BROTHERS INC.

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

## WINOLA INDUSTRIAL INC.

Tel: (570) 378-3808 • Fax: (570) 378-2597  
www.winolaindustrial.com • winola@epix.net

## HARMONIC FILTERS

## MAYSTEEL LLC

Tel: (262) 251-1632 • 1-800-255-1247  
Fax: (262) 251-8307  
www.maysteel.com

## HAZARDOUS WASTE MANAGEMENT



## GREEN-PORT ENVIRONMENTAL MANAGERS (ONTARIO)

Tel: (905) 799-2777 • Fax: (905) 458-1702  
www.green-port.com • mitt@green-port.com

## PCB CONTAINMENT TECHNOLOGY (KITCHENER) INC.

Tel: (519) 740-1333 ext.24 • 1-800-324-8997  
Fax: (519) 740-2320  
www.contech.ca • pcbsales@contech.ca

## HEALTH AND SAFETY PRODUCTS AND EQUIPMENT

## WESTEX INC.

Tel: (773) 523-7000 • Fax: (773) 523-0965  
www.westexinc.com  
menright@westexinc.com

## HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION CONTROLS

## COMVERGE, INC.

Tel: (888) 565-5525 • Fax: (973) 884-3504  
www.comverge.com • sales@comverge.com

## DWYER INSTRUMENTS INC

Tel: (219) 879-8000 • 1-800-872-9141  
Fax: (219) 872-9057  
www.dwyer-inst.com • lit@dwyer-inst.com

## HIGH VOLTAGE APPARATUS - 25 TO 800KV

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## HIGH VOLTAGE BREAKERS - SF6/AIR BLAST

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## HIGH VOLTAGE EQUIPMENT - SALES AND SERVICES

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## HOISTS

### CORNERSTONE MATERIAL HANDLING INC.

Tel: 519-448-3344 • Fax: 519-448-4514  
www.cornerstonematerialhandling.com  
brian@cornerstonematerialhandling.com

### HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

## HUB SWITCHES

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

### DATA COMM FOR BUSINESS INC.

Tel: (217) 897-6600 • Fax: (217) 897-1331  
www.dcbnet.com • info@dcbnet.com

### GARRETTCOM INC.

Tel: (510) 438-9071 • Fax: (510) 438-9072  
www.garrettcom.com • mktg@garrettcom.com



### RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

## HYDROGENERATORS - MONITORING

### INCON POWER RELIABILITY PRODUCTS

Tel: (207) 283-0156 • 1-800-872-3455  
Fax: (207) 283-0158  
www.incon.com • twagner@incon.com

## HYDROLOGY

### AEROTEC, LLC

Tel: (205) 428-6444 • Fax: (205) 428-2666  
www.aerotecusa.com  
jsimmons@aerotecusa.com

## IMAGING

### MIKRON INFRARED INC.

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

## INDICATORS - LEVEL



### AUTOMATION PRODUCTS INC. - DYNATROL® DIVISION MAXROY

Tel: (713) 869-0361 • 1-800-231-2067  
Fax: (713) 869-7332  
www.dynatrolusa.com

## INDICATORS - TEMPERATURE



### FISO TECHNOLOGIES

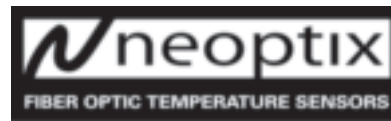
Tel: (418) 688-8065 • Fax: (418) 688-8067  
www.fiso.com • info@fiso.com

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

### MIKRON INFRARED INC.

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com



### NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

## INDICATORS - VOLTAGE

### MEMCO, INC.

Tel: 214/388-5656 • Fax: 214/388-8479  
memco.us/electrical • mcferrin@memco.us

### THIES ELECTRICAL DISTRIBUTING CO.

Tel: (519) 621-2524 • Fax: (519) 740-1203  
www.djinfor.com/tedc • thiestedcca@aol.com

## INDICATORS, PORTABLE - COMBUSTIBLE GAS

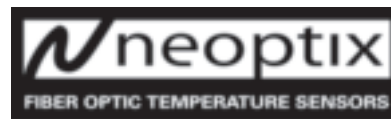
### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

## INDICATORS, PORTABLE - TEMPERATURE

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com



### NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

## INFORMATION TECHNOLOGY AND MANAGEMENT CONSULTING

### INTERPRO CONSULTANTS INC.

Tel: (514) 321-4505 • Fax: (514) 321-0339  
www.interproconsulting.ca

### KEMA INC. (ENGLEWOOD)

Tel: (303) 708-9355 • Fax: (303) 708-9356  
www.kema.com  
info@kemaconsulting.com

## INFRARED - IMAGING

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

### INSTITUTE OF INFRARED THERMOGRAPHY

Tel: 250-579-7677 • Fax: 250-579-9603  
www.infraredinstitute.com  
infrared@infraredinstitute.com

## LASER MAP IMAGE PLUS / GPR

Tel: (819) 647-3085  
www.lasermapping.com • bobf@lasermapping.com

## MIKRON INFRARED INC.

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

## PALMER WAHL INSTRUMENTATION GROUP

Tel: 800-421-2843 • Fax: 828-658-0728  
www.palmerwahl.com  
asantangelo@palmerwahl.com

## INFRARED - SALES & SERVICES

## ACADEMY OF INFRARED TRAINING

Tel: (604) 516-6646 • Fax: (604) 516-6674  
www.infraredtraining.net  
airt@infraredtraining.net

## FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

## MIKRON INFRARED INC.

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

## OX CREEK ENERGY

Tel: (608) 589-5510 • (800) 531-6232  
Fax: (608) 589-5509  
www.ox-creek-energy.com • oxcreek@maqs.net

## INSPECTION

## FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

## INSPECTION - FIELD SERVICES

## MOBILEDATAFORCE™ INC.

Tel: (208) 384-1200 • Fax: (208) 384-1201  
www.mobiledataforce.com

## OX CREEK ENERGY

Tel: (608) 589-5510 • (800) 531-6232  
Fax: (608) 589-5509  
www.ox-creek-energy.com • oxcreek@maqs.net

## S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## INSPECTION SERVICES

## MOBILEDATAFORCE™ INC.

Tel: (208) 384-1200 • Fax: (208) 384-1201  
www.mobiledataforce.com

## THIRDPARTYINSPECTIONS.COM

Tel: 410-620-0392 • Fax: 270-573-3594  
www.thirdpartyinspections.com  
steven.christian@thirdpartyinspections.com

## INSTRUMENT - CONTROLS

## DWYER INSTRUMENTS INC

Tel: (219) 879-8000 • 1-800-872-9141  
Fax: (219) 872-9057  
www.dwyer-inst.com • lit@dwyer-inst.com

## INSTRUMENTATION

## AMETEK POWER INSTRUMENTS

Tel: 585-263-7700  
www.ametekpower.com  
power.sales@ametek.com

## INSTRUMENTATION

## CONTROL MICROSYSTEMS

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

## INSTRUMENTATION

## CONTROL MICROSYSTEMS

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

## MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## INSTRUMENTATION - ELECTRICAL MEASURES

## MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## OHIO SEMITRONICS INC.

Tel: (614) 777-1005 • 1-800-537-0277  
Fax: (614) 777-4511  
www.ohiosemi.com  
sales@ohiosemitronics.com

## INSTRUMENTATION AND CONTROLS

## CONTROL MICROSYSTEMS

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

## DWYER INSTRUMENTS INC

Tel: (219) 879-8000 • 1-800-872-9141  
Fax: (219) 872-9057  
www.dwyer-inst.com • lit@dwyer-inst.com



## NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

## INSTRUMENTS - ON LINE MEASURING



## FISO TECHNOLOGIES

Tel: (418) 688-8065 • Fax: (418) 688-8067  
www.fiso.com • info@fiso.com

## INSTRUMENTS TRANSFORMERS - CURRENT AND VOLTAGE FOR ANALOGUE METERS



## TRENCH LIMITED

Tel: (416) 298-8108 • Fax: (416) 298-2209  
www.trenchgroup.com  
tonyj@ca.trenchgroup.com

## INSULATED HAND TOOLS



## CICAME ENERGIE INC.

Tel: (450) 679-7778 • Fax: (450) 679-9432  
info@cicame-energie.ca

## HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

## INSULATING BOOTS - ELECTRICAL

## PHOENIX MFG LTD

Tel: (905) 878-2818 • Fax: (905) 878-0051  
www.phnxfmfg.com • sales@phnxfmfg.com

## INSULATING OIL

## KELMAN

Tel: (773) 944-0693 • Fax: (773) 944-0690  
www.kelman.co.uk

## INSULATOR - WASHERS, HOT LINE, TRUCK & TRAILER MOUNTED

## ALTEC INDUSTRIES, INC.

Tel: (205) 991-7733 • Fax: (205) 981-2522  
www.altec.com



## TEREX UTILITIES

Tel: (605) 882-5526 • Fax: (605) 882-5546  
www.terexutilities.com

## INSULATORS - COMPOSITE

### K-LINE INSULATORS LTD (ROCHESTER)

Tel: (585) 235-2870 • Fax: (585) 235-3292  
www.k-line.net • k-lineusa@k-line.net

### K-LINE INSULATORS LTD (TORONTO)

Tel: (416) 292-2008 • Fax: (416) 292-2094  
www.k-line.net • insulators@k-line.net

## INSULATORS - GUY STRAIN - FIBERGLASS - REINFORCED

### HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

### HUGHES BROTHERS INC.

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

### K-LINE INSULATORS LTD (ROCHESTER)

Tel: (585) 235-2870 • Fax: (585) 235-3292  
www.k-line.net • k-lineusa@k-line.net

### K-LINE INSULATORS LTD (TORONTO)

Tel: (416) 292-2008 • Fax: (416) 292-2094  
www.k-line.net  
insulators@k-line.net

## INSULATORS - POLYMER

### HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

### K-LINE INSULATORS LTD (ROCHESTER)

Tel: (585) 235-2870 • Fax: (585) 235-3292  
www.k-line.net • k-lineusa@k-line.net

### K-LINE INSULATORS LTD (TORONTO)

Tel: (416) 292-2008 • Fax: (416) 292-2094  
www.k-line.net • insulators@k-line.net

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## INSULATORS - PORCELAIN

### ICB PORCELAIN INSULATORS, INC.

Tel: 305-265-3575 • Fax: 305-263-6575  
icbsales@gwmiami.com • reneken@comcast.net

## LAPP INSULATORS LLC

Tel: 585-768-6221 • Fax: 585-768-6219  
www.lappinsulator.com  
mbailey@lappinsulator.com

## INSULATORS - POST-HORIZONTAL

### K-LINE INSULATORS LTD (ROCHESTER)

Tel: (585) 235-2870 • Fax: (585) 235-3292  
www.k-line.net • k-lineusa@k-line.net

### K-LINE INSULATORS LTD (TORONTO)

Tel: (416) 292-2008 • Fax: (416) 292-2094  
www.k-line.net • insulators@k-line.net

## INSULATORS - SUSPENSION

### K-LINE INSULATORS LTD (ROCHESTER)

Tel: (585) 235-2870 • Fax: (585) 235-3292  
www.k-line.net • k-lineusa@k-line.net

### K-LINE INSULATORS LTD (TORONTO)

Tel: (416) 292-2008 • Fax: (416) 292-2094  
www.k-line.net • insulators@k-line.net

## INSULATORS - SWITCH AND BUS

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## INTERNET SOLUTIONS

### GARRETTCOM INC.

Tel: (510) 438-9071 • Fax: (510) 438-9072  
www.garrettcom.com • mktg@garrettcom.com

## INVERTERS - DC/AC

### LA MARCHE MANUFACTURING

Tel: (847) 299-1188 • Fax: (847) 299-3061  
www.lamarchemfg.com

## IRON - METAL FABRICATION

### WINOLA INDUSTRIAL INC.

Tel: (570) 378-3808 • Fax: (570) 378-2597  
www.winolaindustrial.com • winola@epix.net

## JUMPERS

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

## LABELS



### CARLTON INDUSTRIES INC.

Tel: 1-800-231-5988 • Fax: 1-800-231-5934  
www.carltonusa.com • sales@carltonusa.com

## ELECTROMARK CO.

Tel: (315) 594-8085 • 1-800-295-8247  
Fax: (315) 594-9622  
www.electromark.com  
customerservice@electromark.com

## LABORATORIES

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## LABORATORY EQUIPMENT AND SUPPLIES

### RTDS TECHNOLOGIES, INC.

Tel: (204) 989-9700 • Fax: (204) 452-4303  
www.rtds.com

## LADDERS

### WINOLA INDUSTRIAL INC.

Tel: (570) 378-3808 • Fax: (570) 378-2597  
www.winolaindustrial.com • winola@epix.net

## LADDERS - INDUSTRIAL

### HASTINGS FIBERGLASS PRODUCTS INC.

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hastings@hfgp.com

## WINOLA INDUSTRIAL INC.

Tel: (570) 378-3808 • Fax: (570) 378-2597  
www.winolaindustrial.com • winola@epix.net

### LADDERS - MANHOLE

## WINOLA INDUSTRIAL INC.

Tel: (570) 378-3808 • Fax: (570) 378-2597  
www.winolaindustrial.com • winola@epix.net

### LADDERS - TOWERS

## WINOLA INDUSTRIAL INC.

Tel: (570) 378-3808 • Fax: (570) 378-2597  
www.winolaindustrial.com • winola@epix.net

### LANYARDS, SHOCK ABSORBING

## HASTINGS FIBERGLASS PRODUCTS INC.

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hasting@hfgp.com

### LASER ALIGNMENT

## ALIGNMENT SUPPLIES INC.

Tel: 1-800-997-4467  
Fax: (419) 887-5893  
www.alignmentsupplies.com  
alignmentsupplies@solarstop.net

### LASER ALIGNMENT - BELT + SHEAVE

## ALIGNMENT SUPPLIES INC.

Tel: 1-800-997-4467  
Fax: (419) 887-5893  
www.alignmentsupplies.com  
alignmentsupplies@solarstop.net

### LASERS

## W.I.R.E. SERVICES, A DIVISION OF MANITOBA HYDRO

Tel: (204) 480-5800 • Fax: (204) 480-5107  
www.wireservices.ca • info@wireservices.ca

### LEAK CONTROL

## COLT ATLANTIC SERVICES

Tel: (770) 831-8135 • (800) 229-2658  
Fax: (770) 831-8631  
www.coltonline.com • sales@coltonline.com

### LEAKAGE - DETECTION DEVICES AND SYSTEMS



## ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

## MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### LED PRODUCTS

## POLYBRITE INTERNATIONAL

Tel: 8003203801 • Fax: 6307175646  
www.polybrite.com • tula@polybrite.com

### LEVEL, DENSITY, WEIGHT, MOISTURE

## INCON POWER RELIABILITY PRODUCTS

Tel: (207) 283-0156 • 1-800-872-3455  
Fax: (207) 283-0158  
www.incon.com • twagner@incon.com

### LIDAR - INSPECTION

## AEROTEC, LLC

Tel: (205) 428-6444 • Fax: (205) 428-2666  
www.aerotecusa.com  
jsimmons@aerotecusa.com

## W.I.R.E. SERVICES, A DIVISION OF MANITOBA HYDRO

Tel: (204) 480-5800 • Fax: (204) 480-5107  
www.wireservices.ca • info@wireservices.ca

### LIDAR - SURVEY

## W.I.R.E. SERVICES, A DIVISION OF MANITOBA HYDRO

Tel: (204) 480-5800 • Fax: (204) 480-5107  
www.wireservices.ca • info@wireservices.ca

### LIFTS - AERIAL BUCKET

## ALTEC INDUSTRIES, INC.

Tel: (205) 991-7733 • Fax: (205) 981-2522  
www.altec.com

## BAKER FINANCIAL RENTAL & LEASING

Tel: (804) 672-8191 • Fax: (804) 672-8190  
www.bakerleasing.com

## NESCO INC.

Tel: (260) 824-6340 • 1-800-252-0043  
Fax: (260) 824-6350  
www.nescosales.com • nesco@nescosales.com



**TEREX**  
Utilities

## TEREX UTILITIES

Tel: (605) 882-5526 • Fax: (605) 882-5546  
www.terexutilities.com

### LIGHTING

## GOLIGHT INC

Tel: (308) 278-3131 • Fax: (308) 278-2525  
www.golight.com  
cbunstock@golight.com

### LIGHTING - COMMERCIAL & INDUSTRIAL



## HOLOPHANE

Tel: (740) 345-9631 • Fax: (740) 349-4426  
www.holophane.com  
vkniiffin@holophane.com

### LIGHTING - FIXTURES - MANUFACTURERS & WHOLESALE



## HOLOPHANE

Tel: (740) 345-9631 • Fax: (740) 349-4426  
www.holophane.com  
vkniiffin@holophane.com

## MCM INTERNATIONAL

Tel: (514) 918-2511 • Fax: (514) 486-0091  
www.mcmstructures.com

### LIGHTING - FIXTURES - PARTS & SUPPLIES

## P&R TECHNOLOGIES INC.

Tel: (503) 292-8682 • 1-800-722-8078  
Fax: (503) 292-8697  
www.pr-tech.com • prtech@pr-tech.com

### LIGHTING - INDOOR



## HOLOPHANE

Tel: (740) 345-9631 • Fax: (740) 349-4426  
www.holophane.com  
vkniiffin@holophane.com

### LIGHTING - OUTDOOR



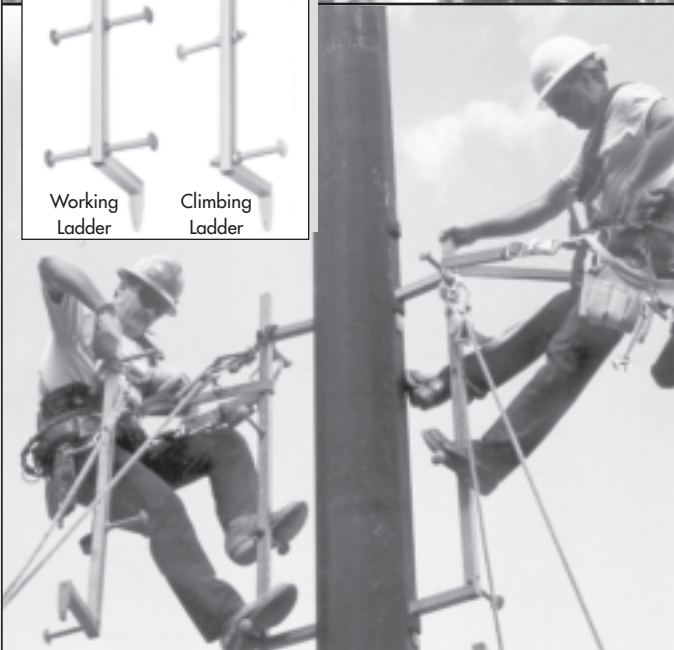
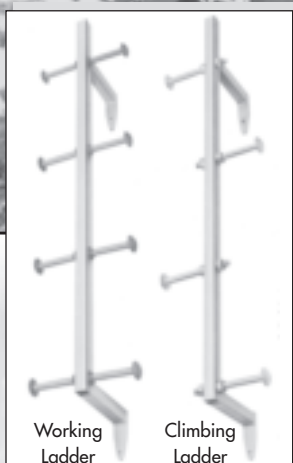
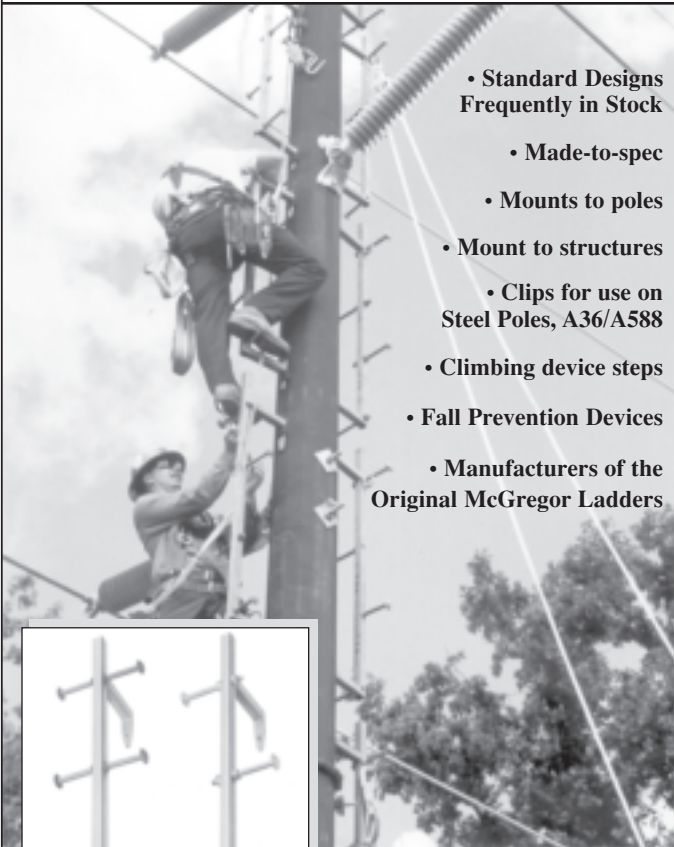
## HOLOPHANE

Tel: (740) 345-9631 • Fax: (740) 349-4426  
www.holophane.com  
vkniiffin@holophane.com

## STEEL LADDERS and ACCESSORIES

We fabricate sturdy, dependable climbing devices and related hardware to suit any special operating needs.

- Standard Designs Frequently in Stock
- Made-to-spec
- Mounts to poles
- Mount to structures
- Clips for use on Steel Poles, A36/A588
- Climbing device steps
- Fall Prevention Devices
- Manufacturers of the Original McGregor Ladders



Visit our website at [www.winolaindustrial.com](http://www.winolaindustrial.com)

### Winola Industrial Inc. Climbing Device Division

RR 1, Box 1070 • Factoryville, PA 18419  
Tel.: 570-378-3808 • Fax: 570-378-2597 • E-mail: [winola@epix.net](mailto:winola@epix.net)

### STERNBERG LIGHTING

Tel: 847-588-3400 • Fax: 847-588-3440  
[www.sternberglighting.com](http://www.sternberglighting.com)  
[jlehrfeld@sternberglighting.com](mailto:jlehrfeld@sternberglighting.com)

### LIGHTING - POLES, CONCRETE ROUND, SQUARE, OCTOGONAL & DECORATIVE

### MCM INTERNATIONAL

Tel: (514) 918-2511 • Fax: (514) 486-0091  
[www.mcmstructures.com](http://www.mcmstructures.com)

### LIGHTING - SYSTEMS & EQUIPMENT

### AECI SPECIALTY TRANSFORMER

Tel: 501.570.2388 • Fax: 501.570.2986  
[www.aeci.com](http://www.aeci.com) • [tbaldwin@aeci.com](mailto:tbaldwin@aeci.com)

### MCM INTERNATIONAL

Tel: (514) 918-2511 • Fax: (514) 486-0091  
[www.mcmstructures.com](http://www.mcmstructures.com)

### LIGHTING CONTROLS

### MAYSTEEL LLC

Tel: (262) 251-1632 • 1-800-255-1247  
Fax: (262) 251-8307  
[www.maysteel.com](http://www.maysteel.com)

### LIGHTNING CONDUCTORS - COPPER WIRE

### COMMSCOPE BIMETALS

Tel: (704) 883-8015 • (800) 982-1708  
Fax: (704) 832-7548  
[www.commscope.com](http://www.commscope.com)  
[bimetals@commscope.com](mailto:bimetals@commscope.com)

### LIGHTNING PROTECTION SYSTEM



**POSITRONIC**  
*Connect to Excellence*

### POSITRONIC INDUSTRIES INC.

Tel: (417) 866-2322 • (800) 641-4054  
Fax: (417) 866-4115  
[www.connectpositronic.com](http://www.connectpositronic.com)  
[info@connectpositronic.com](mailto:info@connectpositronic.com)

### LIGHTS - AVIATION OBSTRUCTION



### CICAME ENERGIE INC.

Tel: (450) 679-7778 • Fax: (450) 679-9432  
[info@cicame-energie.ca](mailto:info@cicame-energie.ca)

## LIGHTS - EMERGENCY

### K & H INDUSTRIES INC.

Tel: (716) 549-0135 • Fax: (716) 549-2725  
www.khindustries.com • khind@msn.com

## LIGHTS - PORTABLE

### GOLIGHT INC

Tel: (308) 278-3131 • Fax: (308) 278-2525  
www.golight.com  
cbunstock@golight.com

### K & H INDUSTRIES INC.

Tel: (716) 549-0135 • Fax: (716) 549-2725  
www.khindustries.com • khind@msn.com

## LIGHTS - SPOT

### GOLIGHT INC

Tel: (308) 278-3131 • Fax: (308) 278-2525  
www.golight.com  
cbunstock@golight.com

### K & H INDUSTRIES INC.

Tel: (716) 549-0135 • Fax: (716) 549-2725  
www.khindustries.com • khind@msn.com

## LIGHTS (SEE ALSO FLOODLIGHTS)

### P&R TECHNOLOGIES INC.

Tel: (503) 292-8682 • 1-800-722-8078  
Fax: (503) 292-8697  
www.pr-tech.com • prtech@pr-tech.com

## LIMITERS - CURRENT

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

## LINESMEN - EQUIPMENT

### BCL GLOVE LTD.

Tel: 418-852-2098 • (888) 225-4268  
Fax: 418-852-3330  
www.bclglove.ca • info@ganteriebcl.ca

## LINKS - FUSE

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## LOAD BANK

### FILNOR INC.

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

## LOAD CELL

### FILNOR INC.

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

## LOAD MANAGEMENT



### CANNON TECHNOLOGIES

Tel: (402) 498-2797 • Fax: (402) 498-4437  
www.cannontech.com • doug@cannontech.com

### COMVERGE, INC.

Tel: (888) 565-5525 • Fax: (973) 884-3504  
www.comverge.com • sales@comverge.com



### HUNT POWER L.P.

Tel: (866) 944-4868 • Fax: (214) 978-8949  
www.huntpower.com

### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com



### ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

### KEMA INC. (ENGLEWOOD)

Tel: (303) 708-9355 • Fax: (303) 708-9356  
www.kema.com  
info@kemaconsulting.com

### REGENCY TECHNOLOGIES INC.

Tel: (317) 543-9740 • 1-800-376-7356  
Fax: (317) 543-9746  
www.regencytec.com • regencytech@juno.com

## TWACS BY DCSI

Tel: (314) 895-6400 • Fax: (314) 895-6543  
www.twacs.com • sales@twacs.com

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## LOAD MANAGEMENT - COMMUNICATIONS

### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com



### RADIUS US INC.

Tel: (952) 469-1135 • Fax: (952) 469-1050  
www.radius.net • info-us@radius.net

### TANTALUS SYSTEMS CORP.

Tel: (604) 299-0458 • Fax: (604) 451-4111  
www.tantalus.com  
tantalussales@tantalus.com

## LOCATORS - FAULT

### AQUA-TRONICS, INC.

Tel: 208-528-8875 • Fax: 208-528-8877  
www.aquatronics.com  
aquatron@aquatronics.com

## PRODUCTS & SERVICES

### THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

### LOCKING DEVICES

#### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

#### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

#### EBERHARD MANUFACTURING COMPANY

Tel: 440-238-9720 • Fax: 440-572-2732  
www.eberhard.com  
poreilly@eberhard.com

#### HERCULES INDUSTRIES INC.

Tel: 1-800-345-2590 • Fax: (740) 494-2274  
www.herculock.com • dhook@herculock.com

#### INNER-TITE CORP.

Tel: (508) 829-6361 • Fax: (508) 829-4469  
www.inner-tite.com  
security@inner-tite.com

### LOCKOUT SYSTEMS

#### HERCULES INDUSTRIES INC.

Tel: 1-800-345-2590 • Fax: (740) 494-2274  
www.herculock.com • dhook@herculock.com

### LOCKOUTS

#### HERCULES INDUSTRIES INC.

Tel: 1-800-345-2590 • Fax: (740) 494-2274  
www.herculock.com • dhook@herculock.com

### LOCKOUTS - SAFETY

#### HERCULES INDUSTRIES INC.

Tel: 1-800-345-2590 • Fax: (740) 494-2274  
www.herculock.com • dhook@herculock.com

#### KIRK KEY INTERLOCK COMPANY

Tel: 330-833-8223 • Fax: 330-833-1528  
www.kirkkey.com • sean@kirkkey.com

### MACHINE SHOPS - WELDING, MANUFACTURING, MAINTENANCE

#### WINOLA INDUSTRIAL INC.

Tel: (570) 378-3808 • Fax: (570) 378-2597  
www.winolaindustrial.com • winola@epix.net

### MAGNETIC FIELD MEASUREMENT

#### ENERTECH CONSULTANTS

Tel: (408) 866-7266 ext:21  
Fax: (408) 866-7279  
www.enertech.net  
etcsales@enertech.net

### MAGNETIC SHIELDS

#### MAGNETIC SHIELD CORP.

Tel: (630) 766-7800 • 1-800-304-5665  
Fax: (630) 766-2813  
www.magnetic-shield.com  
rdasso@magnetic-shield.com

### MAINTENANCE - BATTERIES

#### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### MAINTENANCE - PREVENTIVE MAINTENANCE EQUIPMENT

#### CONCO SYSTEMS, INC.

Tel: 412-828-1166 • Fax: 412-826-8255  
www.concosystems.com  
info@concosystems.com

#### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

#### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

#### MIKRON INFRARED INC.

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

### MAINTENANCE - SERVICES AND PRODUCTS

#### COLT ATLANTIC SERVICES

Tel: (770) 831-8135 • (800) 229-2658  
Fax: (770) 831-8631  
www.coltonline.com • sales@coltonline.com



#### OSMOSE UTILITIES SERVICES, INC.

Tel: (716) 882-5905 • Fax: (716) 882-7822  
www.osmoseutilities.com • calmeter@osmose.com

### MAINTENANCE - SYSTEMS

#### DIGITAL INSPECTIONS, A KEMA COMPANY

Tel: 800-877-8783 x1 • Fax: 541-758-3666  
www.digitalinspections.com  
sales@digitalinspections.com



#### POWEL - MINIMAX

Tel: (651) 251-3005 • Fax: (651) 251-3006  
www.powelminimax.com  
jeff.baumer@powelminimax.com

### MANAGEMENT CONSULTING

#### BREWINGTON & COMPANY

Tel: 336-786-9020 • Fax: 336-786-9154  
www.fleethelp.com  
jbbrewington@earthlink.net



*experience you can trust*

#### KEMA INC.

Tel: (781) 273-5700 • Fax: (781) 229-4867  
www.kema.com  
info@kemaconsulting.com

### MAPPING SERVICES

#### AEROTEC, LLC

Tel: (205) 428-6444 • Fax: (205) 428-2666  
www.aerotecusa.com  
jsimmons@aerotecusa.com

#### LASER MAP IMAGE PLUS / GPR

Tel: (819) 647-3085  
www.lasemap.com • bobf@lasemap.com

### MAPPING SYSTEMS - MOBILE

#### AEROTEC, LLC

Tel: (205) 428-6444 • Fax: (205) 428-2666  
www.aerotecusa.com  
jsimmons@aerotecusa.com

#### INTERGRAPH CORP

Tel: (256) 730-8558 • Fax: (256) 730-8995  
www.intergraph.com • jpaddock@ingr.com

#### TENSING

Tel: 240 686 0680 • Fax: 240 686 0681  
www.tensing.us  
jleeuwenburg@tensing.com

### MARKERS

#### ELECTROMARK CO.

Tel: (315) 594-8085 • 1-800-295-8247  
Fax: (315) 594-9622  
www.electromark.com  
customerservice@electromark.com

#### P&R TECHNOLOGIES INC.

Tel: (503) 292-8682 • 1-800-722-8078  
Fax: (503) 292-8697  
www.pr-tech.com • prtech@pr-tech.com

### MATERIAL HANDLING EQUIPMENT



#### TEREX UTILITIES

Tel: (605) 882-5526 • Fax: (605) 882-5546  
www.terexutilities.com

## MEASURE INSTRUMENTS

### CONTROL MICROSYSTEMS

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com



### NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

## MEDIA CONVERTERS

### GARRETTCOM INC.

Tel: (510) 438-9071 • Fax: (510) 438-9072  
www.garrettcom.com • mktg@garrettcom.com



### RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

## METAL - CUSTOM FABRICATION

### WINOLA INDUSTRIAL INC.

Tel: (570) 378-3808 • Fax: (570) 378-2597  
www.winolaindustrial.com • winola@epix.net

## METAL - CUSTOM MADE PARTS

### WINOLA INDUSTRIAL INC.

Tel: (570) 378-3808 • Fax: (570) 378-2597  
www.winolaindustrial.com • winola@epix.net

## METER - READING SERVICES

### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com



### ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

### OLAMETER INC.

Tel: (905) 841-1167 • (800) 903-7003  
Fax: (905) 841-1288  
www.olameter.com • info@olameter.com

## METER READING EQUIPMENT - AUTOMATIC (AMR)

### TWACS BY DCSI

Tel: (314) 895-6400 • Fax: (314) 895-6543  
www.twacs.com • sales@twacs.com

## METER READING EQUIPMENT (AMR) - AUTOMATIC

### BADGER METER, INC.

Tel: (800) 876-3837 • Fax: (414) 371-5932  
www.badgermeter.com • flow@badgermeter.com



### CANNON TECHNOLOGIES

Tel: (402) 498-2797 • Fax: (402) 498-4437  
www.cannontech.com • doug@cannontech.com

### COMVERGE, INC.

Tel: (888) 565-5525 • Fax: (973) 884-3504  
www.comverge.com • sales@comverge.com



### HUNT POWER L.P.

Tel: (866) 944-4868 • Fax: (214) 978-8949  
www.huntpower.com

### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com



### ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com



### LANDIS+GYR INC.

Tel: (765) 742-1001 • Fax: (765) 429-2667  
www.landisgyr.us  
salesinfo@us.landisgyr.com



### SENSUS METERING SYSTEMS

Tel: 1-800-Meter-IT • Fax: (724) 439-7729  
www.sensus.com • askicon@sensus.com

## TELVENT

Tel: Tel.: (713) 939-9399 • Fax: (713) 939-7424  
www.telvent.com  
info.usa@telvent.abengoa.com

## METER SERVICES



### ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

## METER SOCKET - ACCESSORIES

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

## METERING ACCESSORIES

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com

### INNER-TITE CORP.

Tel: (508) 829-6361 • Fax: (508) 829-4469  
www.inner-tite.com  
security@inner-tite.com

## METERING DATA - MANAGEMENT



### HUNT POWER L.P.

Tel: (866) 944-4868 • Fax: (214) 978-8949  
www.huntpower.com

### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com



# ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

# LODESTAR CORPORATION

Tel: 713-292-2500 • 1-888-225-1293  
Fax: 713-292-2550  
www.lodestarcorp.com  
glenn\_macrill@lodestarcorp.com

# OLAMETER INC.

Tel: (905) 841-1167 • (800) 903-7003  
Fax: (905) 841-1288  
www.olameter.com • info@olameter.com

## METERING RESIDENTIAL AND COMMERCIAL

# BADGER METER, INC.

Tel: (800) 876-3837 • Fax: (414) 371-5932  
www.badgermeter.com • flow@badgermeter.com



# ELSTER ELECTRICITY, LLC

Tel: (919) 212-4800 • Fax: (919) 212-4801  
www.elsterelectricity.com



# ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com



# LANDIS+GYR INC.

Tel: (765) 742-1001 • Fax: (765) 429-2667  
www.landisgyr.us  
salesinfo@us.landisgyr.com



# MILBANK MFG. CO.

Tel: (816) 483-5314 • Fax: (816) 483-6357  
www.milbankmfg.com • sales@milbankmfg.com



# SENSUS METERING SYSTEMS

Tel: 1-800-Meter-IT • Fax: (724) 439-7729  
www.sensus.com • askicon@sensus.com

# TWACS BY DCSI

Tel: (314) 895-6400 • Fax: (314) 895-6543  
www.twacs.com • sales@twacs.com

## METERING SYSTEMS - ELECTRONIC



# ELSTER ELECTRICITY, LLC

Tel: (919) 212-4800 • Fax: (919) 212-4801  
www.elsterelectricity.com

# POWER SALES & SERVICE - ATLANTA

Tel: 4-4=237-8239  
jperryut@bellsouth.net

## METERING, RV - MOBILE HOME



# MILBANK MFG. CO.

Tel: (816) 483-5314 • Fax: (816) 483-6357  
www.milbankmfg.com • sales@milbankmfg.com

## METERS

# AMETEK INC.

Tel: (610) 647-2121 • Fax: (610) 296-3412  
www.ametek.com

# BADGER METER, INC.

Tel: (800) 876-3837 • Fax: (414) 371-5932  
www.badgermeter.com • flow@badgermeter.com



# ELSTER ELECTRICITY, LLC

Tel: (919) 212-4800 • Fax: (919) 212-4801  
www.elsterelectricity.com

# FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com



# ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com



# LANDIS+GYR INC.

Tel: (765) 742-1001 • Fax: (765) 429-2667  
www.landisgyr.us  
salesinfo@us.landisgyr.com



# RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com



# SENSUS METERING SYSTEMS

Tel: 1-800-Meter-IT • Fax: (724) 439-7729  
www.sensus.com • askicon@sensus.com

## METERS - ADAPTERS

# BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

# BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

## METERS - CABLE LENGTH

# MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## METERS - ENCLOSURES

# BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

# BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

## METERS - GROUND RESISTANCE

# MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## METERS - KILOWATTHOUR

# DENT INSTRUMENTS

Tel: 541-388-4774 • Fax: 541-385-9333  
www.dentinstruments.com  
tvanslambrouck@dentinstruments.com



# LANDIS+GYR INC.

Tel: (765) 742-1001 • Fax: (765) 429-2667  
www.landisgyr.us  
salesinfo@us.landisgyr.com



# SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

## METERS - MAGNETIC FIELD

### ENERTECH CONSULTANTS

Tel: (408) 866-7266 ext:21  
Fax: (408) 866-7279  
www.enertech.net  
etcsales@enertech.net

## METERS - PHASE

### HASTINGS FIBERGLASS PRODUCTS INC.

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hstings@hfgp.com

## METERS - POWER FACTOR

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## METERS - POWER QUALITY

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com



# SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

## METERS - RATIO

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## METERS - TEST SETS - TEST EQUIPMENT

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

### HD ELECTRIC COMPANY

Tel: (847) 473-4980 • Fax: (847) 473-4981  
www.hdelectriccompany.com  
khuggins@hdelectriccompany.com

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

## METERS - TIME-OF-USE

### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com



# SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

## METERS - VISCOSITY



### AUTOMATION PRODUCTS INC. - DYNATROL® DIVISION MAXROY

Tel: (713) 869-0361 • 1-800-231-2067  
Fax: (713) 869-7332  
www.dynatrolusa.com

## METERS - VOLT

### HASTINGS FIBERGLASS PRODUCTS INC.

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hstings@hfgp.com

## METERS/SUBMETERING SYSTEMS - ELECTRICAL

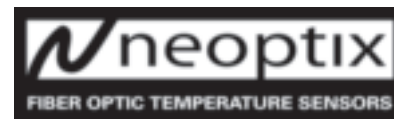
### E-MON

Tel: 800-334-3666 • Fax: 215-752-3094  
www.emon.com  
sabbott@huntpower.com

## OHIO SEMITRONICS INC.

Tel: (614) 777-1005 • 1-800-537-0277  
Fax: (614) 777-4511  
www.ohiosemi.com  
sales@ohiosemitronics.com

## METROLOGY



### NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

## MICROWAVE - DATA COMMUNICATIONS

### MICROWAVE DATA SYSTEMS, INC.

Tel: (585) 242-9600 • Fax: (585) 242-9620  
www.microwavedata.com  
sales@microwavedata.com

## MOBILE - DATA

### INTERGRAPH CORP

Tel: (256) 730-8558 • Fax: (256) 730-8995  
www.intergraph.com • jpaddock@ingr.com



### ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

### MICROWAVE DATA SYSTEMS, INC.

Tel: (585) 242-9600 • Fax: (585) 242-9620  
www.microwavedata.com  
sales@microwavedata.com

## MOBILE COMMUNICATION

### MICROWAVE DATA SYSTEMS, INC.

Tel: (585) 242-9600 • Fax: (585) 242-9620  
www.microwavedata.com  
sales@microwavedata.com

## MOBILE WORKFORCE MANAGEMENT

### CGI INC. (UTILITY SOLUTIONS)

Tel: (800) 390-6033, 3768 • Fax: 514 228-8895  
www.utilitysolutions.cgi.com  
info.util-sol@cgi.com

### INTERGRAPH CORP

Tel: (256) 730-8558 • Fax: (256) 730-8995  
www.intergraph.com • jpaddock@ingr.com



### LOGICA CMG

Tel: (713) 954-7000 • Fax: (713) 785-0880  
www.logicacmg.com/us  
sue.wilson@logicacmg.com

**TELVENT**

Tel: Tel.: (713) 939-9399 • Fax: (713) 939-7424  
www.telvent.com  
info.usa@telvent.abengoa.com

**MODEMS  
- DATA COMMUNICATION**

**DATA COMM FOR BUSINESS INC.**

Tel: (217) 897-6600 • Fax: (217) 897-1331  
www.dcbnet.com • info@dcbnet.com

**RFL ELECTRONICS INC.**

Tel: (973) 334-3100 • Fax: (973) 334-3863  
www.rflect.com

**MONITORING - COMMUNICATIONS**

**CONTROL MICROSYSTEMS**

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

**MICROWAVE DATA SYSTEMS, INC.**

Tel: (585) 242-9600 • Fax: (585) 242-9620  
www.microwavedata.com  
sales@microwavedata.com



**SENSUS METERING SYSTEMS**

Tel: 1-800-Meter-IT • Fax: (724) 439-7729  
www.sensus.com • askicon@sensus.com

**MONITORING - EQUIPMENT**

**CONTROL MICROSYSTEMS**

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

**KELMAN**

Tel: (773) 944-0693 • Fax: (773) 944-0690  
www.kelman.co.uk

**MIKRON INFRARED INC.**

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com



**NEOPTIX FIBER OPTIC SENSORS**

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

**OFIL LTD**

Tel: +972-8 9 407 953 • Fax: +972-8 9 407 873  
www.ofilsystems.com • ofil@ofilsystems.com



**RUGGED COM INC.**

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

**MONITORING - MACHINE CONDITION**

**MIKRON INFRARED INC.**

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

**MONITORING  
- REMOTE MONITORING**

**CONTROL MICROSYSTEMS**

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

**MONITORING - TRANSFORMERS**

**INCON POWER RELIABILITY  
PRODUCTS**

Tel: (207) 283-0156 • 1-800-872-3455  
Fax: (207) 283-0158  
www.incon.com • twagner@incon.com

**KELMAN**

Tel: (773) 944-0693 • Fax: (773) 944-0690  
www.kelman.co.uk

**MEGGER**

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

**MIKRON INFRARED INC.**

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com



**NEOPTIX FIBER OPTIC SENSORS**

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

**MONITORS - FAULT GAS (TRANS-  
FORMERS, CIRCUIT BREAKERS)**

**KELMAN**

Tel: (773) 944-0693 • Fax: (773) 944-0690  
www.kelman.co.uk

**MONITORS - POWER LINE  
DISTURBANCE**

**HUNT TECHNOLOGIES INC.**

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com

**MEGGER**

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

**MONITORS - TEMPERATURE**



**FISO TECHNOLOGIES**

Tel: (418) 688-8065 • Fax: (418) 688-8067  
www.fiso.com • info@fiso.com

**FLIR SYSTEMS**

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com



**LUXTRON**

Tel: (408) 727-1600 • Fax: (408) 727-1677  
www.luxtron.com • info@luxtron.com

**MIKRON INFRARED INC.**

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com



**NEOPTIX FIBER OPTIC SENSORS**

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

**MOTOR CONTROL CENTERS - LOW  
AND MEDIUM VOLTAGE**

**SIEMENS**

Global network of innovation

**SIEMENS POWER TRANSMISSION &  
DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

**MOTORS GENERATORS LARGE -  
REPAIR, REFURBISHING,  
UPGRADING, REWINDING**

**NATIONAL ELECTRIC COIL**

Tel: (614) 488-1151 • Fax: (614) 488-8892  
www.national-electric-coil.com  
sjeney@national-electric-coil.com

**MULTIPLEXERS  
- DATA COMMUNICATIONS**

**DATA COMM FOR BUSINESS INC.**

Tel: (217) 897-6600 • Fax: (217) 897-1331  
www.dcbnet.com • info@dcbnet.com

**RFL ELECTRONICS INC.**  
Tel: (973) 334-3100 • Fax: (973) 334-3863  
www.rflect.com

## MULTIPLEXERS - FIBER OPTICS

**RFL ELECTRONICS INC.**  
Tel: (973) 334-3100 • Fax: (973) 334-3863  
www.rflect.com

## MULTIPLEXERS - VOICE COMMUNICATIONS

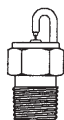
**RFL ELECTRONICS INC.**  
Tel: (973) 334-3100 • Fax: (973) 334-3863  
www.rflect.com

## NOZZLES



**BETE FOG NOZZLE INC.**  
Tel: (413) 772-0846 • 1-800-235-1438  
Fax: (413) 772-6729  
www.bete.com

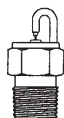
## NOZZLES - DUST, SMOKE AND FLY ASH SUPPRESSION



**COLD FOG<sup>by</sup>  
ATOMIZING  
SYSTEMS INC**

**ATOMIZING SYSTEMS INC.**  
Tel: (201) 447-1222 • (800) 265-3364  
Fax: (201) 447-6932  
www.coldfog.com • info@coldfog.com

## NOZZLES - FOG



**COLD FOG<sup>by</sup>  
ATOMIZING  
SYSTEMS INC**

**ATOMIZING SYSTEMS INC.**  
Tel: (201) 447-1222 • (800) 265-3364  
Fax: (201) 447-6932  
www.coldfog.com • info@coldfog.com

## NOZZLES - HUMIDIFICATION



**BETE FOG NOZZLE INC.**  
Tel: (413) 772-0846 • 1-800-235-1438  
Fax: (413) 772-6729  
www.bete.com

## NOZZLES - MIST ELIMINATOR



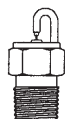
**BETE FOG NOZZLE INC.**  
Tel: (413) 772-0846 • 1-800-235-1438  
Fax: (413) 772-6729  
www.bete.com

## NOZZLES - POLLUTION CONTROL



**BETE FOG NOZZLE INC.**  
Tel: (413) 772-0846 • 1-800-235-1438  
Fax: (413) 772-6729  
www.bete.com

## NOZZLES - SPRAY ATOMIZING



**COLD FOG<sup>by</sup>  
ATOMIZING  
SYSTEMS INC**

**ATOMIZING SYSTEMS INC.**  
Tel: (201) 447-1222 • (800) 265-3364  
Fax: (201) 447-6932  
www.coldfog.com • info@coldfog.com

## OIL - CONTAINMENT EQUIPMENT

### BROCKTON EQUIPMENT - SPILLDAM INC.

Tel: (508) 583-7850 • Fax: (508) 583-5231  
www.spilldam.com

### IMMEDIATE RESPONSE SPILL TECHNOLOGIES, LLC

Tel: (502) 267-0101 • (866) CIAGENT  
Fax: (502) 267-0181  
www.ciagent.com • terry@ciagent.com

### SOLIDIFICATION PRODUCTS INTERNATIONAL INC.

Tel: (203) 484-9494 • (800) 758-3634  
Fax: (203) 484-9492  
www.oilbarriers.com

## OIL - SOLIDIFIERS

### IMMEDIATE RESPONSE SPILL TECHNOLOGIES, LLC

Tel: (502) 267-0101 • (866) CIAGENT  
Fax: (502) 267-0181  
www.ciagent.com • terry@ciagent.com

## OIL ABSORBANTS - PADS, ROLLS, BOOMS, SOCKS

### SOLIDIFICATION PRODUCTS INTERNATIONAL INC.

Tel: (203) 484-9494 • (800) 758-3634  
Fax: (203) 484-9492  
www.oilbarriers.com

## OIL SPILL EQUIPMENT

### BROCKTON EQUIPMENT - SPILLDAM INC.

Tel: (508) 583-7850 • Fax: (508) 583-5231  
www.spilldam.com

### IMMEDIATE RESPONSE SPILL TECHNOLOGIES, LLC

Tel: (502) 267-0101 • (866) CIAGENT  
Fax: (502) 267-0181  
www.ciagent.com • terry@ciagent.com

### SOLIDIFICATION PRODUCTS INTERNATIONAL INC.

Tel: (203) 484-9494 • (800) 758-3634  
Fax: (203) 484-9492  
www.oilbarriers.com

## OIL TESTING - DISSOLVED GAS ANALYSIS

### KELMAN

Tel: (773) 944-0693 • Fax: (773) 944-0690  
www.kelman.co.uk

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## ON-LINE MONITORING



### AUTOMATION PRODUCTS INC. - DYNATROL® DIVISION MAXROY

Tel: (713) 869-0361 • 1-800-231-2067  
Fax: (713) 869-7332  
www.dynatrolusa.com

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

### KELMAN

Tel: (773) 944-0693 • Fax: (773) 944-0690  
www.kelman.co.uk



### NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## OPERATION AND MAINTENANCE SERVICES

### SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## OPERATION SUPPORT SYSTEMS

### INTERGRAPH CORP

Tel: (256) 730-8558 • Fax: (256) 730-8995  
www.intergraph.com • jpaddock@ingr.com

## OUTAGE MANAGEMENT SYSTEMS



### HUNT POWER L.P.

Tel: (866) 944-4868 • Fax: (214) 978-8949  
www.huntpower.com

### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com

### INTERGRAPH CORP

Tel: (256) 730-8558 • Fax: (256) 730-8995  
www.intergraph.com • jpaddock@ingr.com



### ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

### TELVENT

Tel: Tel.: (713) 939-9399 • Fax: (713) 939-7424  
www.telvent.com  
info.usa@telvent.abengoa.com

### TWACS BY DCSI

Tel: (314) 895-6400 • Fax: (314) 895-6543  
www.twacs.com • sales@twacs.com

### W.I.R.E. SERVICES, A DIVISION OF MANITOBA HYDRO

Tel: (204) 480-5800 • Fax: (204) 480-5107  
www.wireservices.ca • info@wireservices.ca

## OUTSOURCED CUSTOMER CARE & BILLING

### OLAMETER INC.

Tel: (905) 841-1167 • (800) 903-7003  
Fax: (905) 841-1288  
www.olameter.com • info@olameter.com

## PADLOCKS

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

### HERCULES INDUSTRIES INC.

Tel: 1-800-345-2590 • Fax: (740) 494-2274  
www.herculock.com • dhook@herculock.com

## PADS - BOX

### HIGHLINE PRODUCTS

Tel: (781) 736-0002 • Fax: (781) 647-3607  
www.highlineproducts.com  
jsullivan@highlineproducts.com

## PANEL BOARDS

### PARK ELECTRIC

Tel: (313) 366-2200 • Fax: (313) 366-1540  
www.parkdetroit.com

## PANEL METERS

### AMETEK INC.

Tel: (610) 647-2121 • Fax: (610) 296-3412  
www.ametek.com

## PANELS (POWER DISTRIBUTION)

### PARK ELECTRIC

Tel: (313) 366-2200 • Fax: (313) 366-1540  
www.parkdetroit.com

## PARTIAL DISCHARGE ANALYSIS, DETECTION

### HIPOTRONICS INC.

Tel: (845) 279-3644 • Fax: (845) 279-2467  
www.hipotronics.com  
sales@hipotronics.com

## PCB DISPOSAL



### GREEN-PORT ENVIRONMENTAL MANAGERS (ONTARIO)

Tel: (905) 799-2777 • Fax: (905) 458-1702  
www.green-port.com • mitt@green-port.com

### PCB CONTAINMENT TECHNOLOGY (KITCHENER) INC.

Tel: (519) 740-1333 ext.24 • 1-800-324-8997  
Fax: (519) 740-2320  
www.contech.ca • pcbsales@contech.ca

**PCB HANDLING****GREEN-PORT ENVIRONMENTAL MANAGERS (ONTARIO)**

Tel: (905) 799-2777 • Fax: (905) 458-1702  
www.green-port.com • mitt@green-port.com

**PCB CONTAINMENT TECHNOLOGY (KITCHENER) INC.**

Tel: (519) 740-1333 ext.24 • 1-800-324-8997  
Fax: (519) 740-2320  
www.contech.ca • pcbsales@contech.ca

**PCB TREATMENT SERVICES****PCB CONTAINMENT TECHNOLOGY (KITCHENER) INC.**

Tel: (519) 740-1333 ext.24 • 1-800-324-8997  
Fax: (519) 740-2320  
www.contech.ca • pcbsales@contech.ca

**PEDESTALS - COMMERCIAL METER****MILBANK MFG. CO.**

Tel: (816) 483-5314 • Fax: (816) 483-6357  
www.milbankmfg.com • sales@milbankmfg.com

**PEDESTALS, RV - MOBILE HOME****MILBANK MFG. CO.**

Tel: (816) 483-5314 • Fax: (816) 483-6357  
www.milbankmfg.com • sales@milbankmfg.com

**PHASE IDENTIFICATION****ORIGO CORPORATION**

Tel: 480-473-1995  
www.origocorp.com  
gpiessinger@origocorp.com

**PLATFORMS - LINEMAN'S****HASTINGS FIBERGLASS PRODUCTS INC.**

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hasting@hfgp.com

**PLATFORMS - TRANSFORMERS****HUGHES BROTHERS INC.**

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

**POLE - WOOD/PRESERVATIVES****MERICHEM COMPANY**

Tel: (713) 428-5280 • Fax: (713) 921-4604  
www.merichem.com

**POLE INSTALLATION AND MOORING****RAINBOW TECHNOLOGY**

Tel: 1.800.637.6047 • Fax: 1.800.521.6896  
www.rainbowtech.net  
sales@rainbowtech.net

**POLE LINE HARDWARE****WINDSTREAM SUPPLY, INC.**

Tel: (678) 351-8208 • 1-800-ALLTEL  
Fax: (678) 351-8597  
www.windstreamsupply.com

**HUGHES BROTHERS INC.**

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

**WINOLA INDUSTRIAL INC.**

Tel: (570) 378-3808 • Fax: (570) 378-2597  
www.winolaindustrial.com • winola@epix.net

**POLE MAINTENANCE****DAVEY TREE EXPERT COMPANY (THE) (KENT)**

Tel: (330) 673-9511 • 1-800-447-1667  
Fax: (330) 673-0702  
www.davey.com  
steve.marshall@davey.com

**DAVEY TREE EXPERT COMPANY (THE) (LIVEMORE)**

Tel: (925) 443-1723 • Fax: (925) 443-1751  
www.davey.com • larry.abernathy@davey.com

**OSMOSE UTILITIES SERVICES, INC.**

Tel: (716) 882-5905 • Fax: (716) 882-7822  
www.osmoseutilities.com • calmeter@osmose.com

**POLE RESTORATION****OSMOSE UTILITIES SERVICES, INC.**

Tel: (716) 882-5905 • Fax: (716) 882-7822  
www.osmoseutilities.com • calmeter@osmose.com

**POLE TOP - EXTENSIONS****HIGHLINE PRODUCTS**

Tel: (781) 736-0002 • Fax: (781) 647-3607  
www.highlineproducts.com  
jsullivan@highlineproducts.com

**POLE-HOLE FILLER****CROSSLINK TECHNOLOGY INC.**

Tel: 800-563-3769 • Fax: 905-673-0519  
www.crosslinktech.com  
thomasonj@crosslinktech.com

**POLES - DISTRIBUTION - STEEL****DIS-TRAN PACKAGED SUBSTATIONS, LLC**

Tel: (318) 448-0274 • Fax: (318) 445-7240  
www.distran.com

**POWCO STEEL PRODUCTS LIMITED**

Tel: (705) 721-1090 • 1-800-645-1664  
Fax: (705) 721-1424 & 1-800-367-1449  
www.powcosteel.com • sales@powcosteel.com

**SABRE TUBULAR STRUCTURES**

Tel: (817) 294-7210 • (866) 254-3707  
Fax: (817) 294-8366  
www.sabrecom.com  
utilitiesales@sabrecom.com

**POLES - LIGHTING - STEEL****POWCO STEEL PRODUCTS LIMITED**

Tel: (705) 721-1090 • 1-800-645-1664  
Fax: (705) 721-1424 & 1-800-367-1449  
www.powcosteel.com • sales@powcosteel.com

**POLES - LIGHTING - WOOD, LAMINATED****HUGHES BROTHERS INC.**

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

**POLES - TRANSMISSION****FWT INC.**

Tel: (817) 255-2996 • Fax: (817) 255-2957  
www.fwtinc.com

**POLES - TRANSMISSION - STEEL****DIS-TRAN PACKAGED SUBSTATIONS, LLC**

Tel: (318) 448-0274 • Fax: (318) 445-7240  
www.distran.com

**FWT INC.**

Tel: (817) 255-2996 • Fax: (817) 255-2957  
www.fwtinc.com



### LOCWELD INC.

Tel: (450) 659-9661 • Fax: (450) 444-3111  
www.locweld.com • info@locweld.com

### POWCO STEEL PRODUCTS LIMITED

Tel: (705) 721-1090 • 1-800-645-1664  
Fax: (705) 721-1424 & 1-800-367-1449  
www.powcosteel.com • sales@powcosteel.com

### SABRE TUBULAR STRUCTURES

Tel: (817) 294-7210 • (866) 254-3707  
Fax: (817) 294-8366  
www.sabrecom.com  
utilitysales@sabrecom.com

### POLES - UTILITY

### MERICHEM COMPANY

Tel: (713) 428-5280 • Fax: (713) 921-4604  
www.merichem.com

### POWCO STEEL PRODUCTS LIMITED

Tel: (705) 721-1090 • 1-800-645-1664  
Fax: (705) 721-1424 & 1-800-367-1449  
www.powcosteel.com • sales@powcosteel.com

### SABRE TUBULAR STRUCTURES

Tel: (817) 294-7210 • (866) 254-3707  
Fax: (817) 294-8366  
www.sabrecom.com  
utilitysales@sabrecom.com

### SHAKESPEARE COMPOSITE STRUCTURES

Tel: 800-800-9008 • Fax: 803-276-8940  
skp-cs.com • bgriffin@skp-cs.com

### POWER - LINE CARRIER EQUIPMENT - SYSTEMS

### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com

### RFL ELECTRONICS INC.

Tel: (973) 334-3100 • Fax: (973) 334-3863  
www.rflect.com



### TRENCH LIMITED

Tel: (416) 298-8108 • Fax: (416) 298-2209  
www.trenchgroup.com  
tonyj@ca.trenchgroup.com

### POWER - MANAGEMENT SYSTEM

### OSENERSA S. A.

Tel: 59323464573 • Fax: 59323464573  
dustinsoria@netscape.net

### POWER CONDITIONING EQUIPMENT

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### POWER FACTOR CORRECTION

### MAYSTEEL LLC

Tel: (262) 251-1632 • 1-800-255-1247  
Fax: (262) 251-8307  
www.maysteel.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### POWER PLANT - DISMANTLING

### BELYEA COMPANY, INC.

Tel: (610) 515-8775 • Fax: (610) 515-1263  
www.belyeapower.com  
sales@belyeapower.com

### POWER PLANT EQUIPMENT

### BELYEA COMPANY, INC.

Tel: (610) 515-8775 • Fax: (610) 515-1263  
www.belyeapower.com  
sales@belyeapower.com

### INDECK POWER EQUIPMENT COMPANY

Tel: (847) 541-8300 • 1-800-446-3325  
Fax: (847) 541-9984  
www.indeck.com • info@indeck-power.com

### POWER PLANT EQUIPMENT - USED

### BELYEA COMPANY, INC.

Tel: (610) 515-8775 • Fax: (610) 515-1263  
www.belyeapower.com  
sales@belyeapower.com

### INDECK POWER EQUIPMENT COMPANY

Tel: (847) 541-8300 • 1-800-446-3325  
Fax: (847) 541-9984  
www.indeck.com • info@indeck-power.com

### POWER PLANTS - MAINTENANCE

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### POWER QUALITY - ANALYSERS

### DRANETZ-BMI

Tel: 1-800-372-6832 • Fax: 1-732-248-1834  
dranetz-bmi.com • jolechiw@wptinc.com

### ELSPEC

Tel: +972-4-627-2470 • Fax: +972-4-6272465  
www.elspec-ltd.com  
daniel@elspec-ltd.com

### FLUKE

Tel: 888-257-9897  
www.fluke.com • pharwood@fluke.com

### POWER QUALITY - ANALYZERS

### AMETEK INC.

Tel: (610) 647-2121 • Fax: (610) 296-3412  
www.ametek.com

### POWER QUALITY - SYSTEM ANALYSIS

### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### POWER QUALITY - TEST EQUIPMENT

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### POWER QUALITY EQUIPMENT

### INELAP

Tel: 52 555 093-2242 • Fax: 52 555 093-2242  
www.inelap.com  
oramirez@arteche.com.mx



### S&CS&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### POWER SUPPLIES

### SCHAEFER INC

Tel: 508-881-7330 • Fax: 508-231-0861  
www.schaeferpower.com  
sales@schaeferpower.com

### TRANSISTOR DEVICES INC

Tel: 908-850-5088 • Fax: 908-850-5731  
www.tdipower.com  
heather\_maguire@tdipower.com

### TRANSISTOR DEVICES INC.

Tel: 908-850-5088 • Fax: 908-850-5731  
www.tdipower.com  
heather\_maguire@tdipower.com

### POWER SUPPLIES - UNINTERRUPTIBLE

### MGE UPS SYSTEMS

Tel: 714-557-1636 • Fax: 714-434-0865  
www.mgeups.com/us  
brian.dillard@mgeups.com

### PENTADYNE POWER CORP.

Tel: 818-350-037 • Fax: 818-350-0384  
www.pentadyne.com • sales@pentadyne.com

## S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## POWERLINE - CONSTRUCTION

## MASTEC ENERGY SERVICES

Tel: (800) 280-6570 • Fax: (704) 599-9824  
www.mastec.com  
barry.batson@mastec.com

## PRESSURE VESSELS

## PENN SEPARATOR CORP.

Tel: (814) 849-7328 • 1-800-255-6558  
Fax: (814) 849-4510  
www.pennseparator.com  
info@pennseparator.com

## PROCESS CONTROL

## BRISTOL, INC., A DIVISION OF EMERSON PROCESS MANAGEMENT

Tel: 860-945-2200 • Fax: 860-945-2278  
www.emersonprocess.com/bristol  
rfindley@bristolbabcock.com

## MIKRON INFRARED INC.

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

## PROCESS CONTROL EQUIPMENT

## MIKRON INFRARED INC.

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

## PROCESS CONTROL INSTRUMENTATION



## AUTOMATION PRODUCTS INC. - DYNATROL® DIVISION MAXROY

Tel: (713) 869-0361 • 1-800-231-2067  
Fax: (713) 869-7332  
www.dynatrolusa.com

## GARRETTCOM INC.

Tel: (510) 438-9071 • Fax: (510) 438-9072  
www.garrettcom.com • mktg@garrettcom.com

## PROJECT ENGINEERING

## S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## PROJECT MANAGEMENT AND CONSULTING

## DIS-TRAN PACKAGED SUBSTATIONS, LLC

Tel: (318) 448-0274 • Fax: (318) 445-7240  
www.distran.com

# WEIDMANN

ELECTRICAL TECHNOLOGY

## SOLUTIONS for Enhanced Transformer Performance



Weidmann offers complete Engineered Systems to enhance your transformer nameplate rating and/or extend its service life.

Let Weidmann engineers and chemists find a solution to optimize the performance and reliability of all the critical units on your system.

- **Diagnostic & Laboratory Testing Services**
  - Transformers, OCBs, LTCs, Voltage Regulators, SF<sub>6</sub>
  - AIM<sup>SM</sup> On-Line Data Management
- **Asset Management**
  - ARRO<sup>SM</sup> - Asset Risk/Reinvestment Optimization
  - Condition Appraisals
  - Optimum Loading Studies
  - Condition Ranking Projects
- **Life Extension and Capacity Enhancement**
- **Substation Products**
  - Radiators
  - Valves
  - CENTURION<sup>TM</sup> On-Line Oil Dielectric Strength Monitor
  - Oil Preservation Systems
  - Oil Storage Bladders
  - Instruments, Controls & On-Line Monitoring
  - Protective Devices
  - Coolers (FOA, FOW)
  - Pumps

## Weidmann Systems International

One Gordon Mills Way • St. Johnsbury, VT 05819-0799

800-242-6748

Tel: 802-748-3936 • Fax: 802-748-8630

e-mail: service@weidmann-acti.com

www.weidmann-acti.com

**REGISTER NOW! ■ NEW DIAGNOSTIC CONCEPTS FOR BETTER ASSET MANAGEMENT**  
5<sup>th</sup> ANNUAL TECHNICAL CONFERENCE ■ November 13-15, 2006 ■ Albuquerque, NM

## PRODUCTS & SERVICES

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### PROTECTION AND CONTROL

#### RTDS TECHNOLOGIES, INC.

Tel: (204) 989-9700 • Fax: (204) 452-4303  
www.rtds.com



#### RUGGED COM INC.

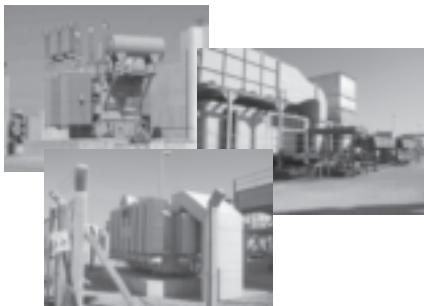
Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com



#### SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

*Powerful Solutions for the Power Hungry  
Since 1908  
Belyea Company, Inc.*



- Appraisals/Technical Opinions
- Asset Evaluations
- Asset Liquidations/ Investment Recovery
- Contract Sales Services
- Emergency services 24/7
- Engineering Services
- Electrical Upgrades/Modification for Plant Expansion
- Free Listing of Electrical Power Equipment on Belyea Company Inc. World Wide Data Base
- Power Generators/Transformer Subs For Rent or Sale
- Transformer Substations Bought, Sold, New, Used, Warranty
- Engine Generators, Gas Turbine, Steam Turbine Generators



2200 Northwood Avenue  
Easton, PA 18045-2239  
Voice – 610-515-8775  
Fax – 610-515-1263 • Fax – 610-258-1230  
sales@belyeapower.com • www.belyeapower.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

#### VIRELEC LTD.

Tel: (905) 569-8030 • Fax: (905) 569-6364  
www.virelec.com

### PROTECTIVE CLOTHING - DISPOSABLE GARMENTS

#### BULWARK PROTECTIVE APPAREL,

Tel: (615) 565-5000 • Fax: (615) 882-2481  
www.bulwark.com  
shana\_witherow@vfc.com

### PROTECTIVE GLOVES AND CLOTHING

#### ACTIONWEAR SASKATOON INC.

Tel: 306 933 3088 • Fax: 306 934 2922  
www.actionwearinc.com  
actionwest@actionwearinc.com

#### BULWARK PROTECTIVE APPAREL,

Tel: (615) 565-5000 • Fax: (615) 882-2481  
www.bulwark.com  
shana\_witherow@vfc.com



#### CARHARTT, INC.

Tel: 1-800-217-2895 • Fax: (313) 271-6428  
www.carharttfr.com  
industrial\_sales@carhartt.com

#### GRANSFORS BRUKS (CANADA) INC.

Tel: (905) 681-3993 • 1-866-922-2978  
Fax: (905) 681-0391  
www.gransfors.ca • canada@gransfors.ca

#### NATIONAL SAFETY APPAREL, INC.

Tel: 216-941-1111 • Fax: 216-941-1130  
www.nsamfg.com • protect@nsamfg.com



#### RANPRO, INC.

Tel: (519) 426-1094 • Fax: (519) 426-5313  
www.ranpro.com • ranpro@ranpro.com

#### WESTEX INC.

Tel: (773) 523-7000 • Fax: (773) 523-0965  
www.westexinc.com  
menright@westexinc.com

### PULLERS - CABLE, AERIAL

#### ALTEC INDUSTRIES, INC.

Tel: (205) 991-7733 • Fax: (205) 981-2522  
www.altec.com

### NESCO INC.

Tel: (260) 824-6340 • 1-800-252-0043  
Fax: (260) 824-6350  
www.nescosales.com • nesco@nescosales.com



# TEREX

Utilities

### TEREX UTILITIES

Tel: (605) 882-5526 • Fax: (605) 882-5546  
www.terexutilities.com

### PULLERS - CABLE, UNDERGROUND

### NESCO INC.

Tel: (260) 824-6340 • 1-800-252-0043  
Fax: (260) 824-6350  
www.nescosales.com • nesco@nescosales.com

### QUALITY ASSURANCE

#### KEMA INC. (ENGLEWOOD)

Tel: (303) 708-9355 • Fax: (303) 708-9356  
www.kema.com • info@kemaconsulting.com

#### MIKRON INFRARED INC.

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

### RACKS

#### UNDERGROUND DEVICES INC.

Tel: (847) 205-9000 • Fax: (847) 205-9004  
www.udevices.com • jangelo@udevices.com

### RADIATORS - TRANSFORMER

#### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

## WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

## WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## RADIO COMMUNICATIONS

### MICROWAVE DATA SYSTEMS, INC.

Tel: (585) 242-9600 • Fax: (585) 242-9620  
www.microwavedata.com  
sales@microwavedata.com



### SENSUS METERING SYSTEMS

Tel: 1-800-Meter-IT • Fax: (724) 439-7729  
www.sensus.com • askicon@sensus.com

## RADIO SWITCHES - VHF & UHF

### REGENCY TECHNOLOGIES INC.

Tel: (317) 543-9740 • 1-800-376-7356  
Fax: (317) 543-9746  
www.regencytec.com • regencytech@juno.com

## RADIO TWO-WAY - MOBILE

### TRIO DATACOM

Tel: 1.866.844.8746 • Fax: 403.274.0459  
www.triodatacom.com  
dbell@triodatacom.com

## RADIO TWO-WAY - PORTABLE - ACCESSORIES

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

## RADIOMETERS - INFRARED

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

## REACTORS



### TRENCH LIMITED

Tel: (416) 298-8108 • Fax: (416) 298-2209  
www.trenchgroup.com  
tonyj@ca.trenchgroup.com

## REACTORS - AIR CORE



### TRENCH LIMITED

Tel: (416) 298-8108 • Fax: (416) 298-2209  
www.trenchgroup.com  
tonyj@ca.trenchgroup.com

## REACTORS - CURRENT - LIMITING



### TRENCH LIMITED

Tel: (416) 298-8108 • Fax: (416) 298-2209  
www.trenchgroup.com  
tonyj@ca.trenchgroup.com

## REACTORS - SERIES



### TRENCH LIMITED

Tel: (416) 298-8108 • Fax: (416) 298-2209  
www.trenchgroup.com  
tonyj@ca.trenchgroup.com

## REACTORS - SHUNT



### TRENCH LIMITED

Tel: (416) 298-8108 • Fax: (416) 298-2209  
www.trenchgroup.com  
tonyj@ca.trenchgroup.com

## REACTORS - SHUNT FILTER



### TRENCH LIMITED

Tel: (416) 298-8108 • Fax: (416) 298-2209  
www.trenchgroup.com  
tonyj@ca.trenchgroup.com

## RECLOSERS



### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## RECLOSERS - CONTROLS

### INDUCTIVE COMPONENTS MFG. INC.

Tel: (513) 752-4731 • Fax: (513) 752-4738  
www.icmlinc.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com



### SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

## RECLOSERS - SINGLE-PHASE

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## RECLOSERS - THREE-PHASE

### INDUCTIVE COMPONENTS MFG. INC.

Tel: (513) 752-4731 • Fax: (513) 752-4738  
www.icmlinc.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

### RECORDERS - EVENT

#### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca

#### AMETEK INC.

Tel: (610) 647-2121 • Fax: (610) 296-3412  
www.ametek.com

### RECORDERS - FAULT

#### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca

#### AMETEK INC.

Tel: (610) 647-2121 • Fax: (610) 296-3412  
www.ametek.com

### RECORDERS - TEMPERATURE



#### FISO TECHNOLOGIES

Tel: (418) 688-8065 • Fax: (418) 688-8067  
www.fiso.com • info@fiso.com



#### NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

### RECTIFIERS

#### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

### RECYCLING - EQUIPMENT/ SUPPLIES/ SYSTEMS



#### RANPRO, INC.

Tel: (519) 426-1094 • Fax: (519) 426-5313  
www.ranpro.com • ranpro@ranpro.com

### REELS - CABLE

#### K & H INDUSTRIES INC.

Tel: (716) 549-0135 • Fax: (716) 549-2725  
www.khindustries.com • khind@msn.com

#### THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

### REELS - CABLE DISPENSING

#### K & H INDUSTRIES INC.

Tel: (716) 549-0135 • Fax: (716) 549-2725  
www.khindustries.com • khind@msn.com

### REELS - CABLE TEST VAN

#### THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

### REELS - CABLE, GROUNDING

#### COMMSCOPE BIMETALS

Tel: (704) 883-8015 • (800) 982-1708  
Fax: (704) 832-7548  
www.commscope.com  
bimetals@commscope.com

### REELS - CABLE, HIGH VOLTAGE

#### COMMSCOPE BIMETALS

Tel: (704) 883-8015 • (800) 982-1708  
Fax: (704) 832-7548  
www.commscope.com  
bimetals@commscope.com

#### THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

### REELS - CONDUCTOR STRINGING



**TEREX**  
Utilities

#### TEREX UTILITIES

Tel: (605) 882-5526 • Fax: (605) 882-5546  
www.terexutilities.com

**TRENCH**

- ✓ Air Core Current Limiting Reactors
- ✓ Line Traps PLC
- ✓ Relay Communication Channels
- ✓ Capacitor Voltage Transformers
- ✓ Current Transformers
- ✓ Potential Transformers
- ✓ Metering Transformers
- ✓ Low Power V/I Transformers
- ✓ LV-HV Bushings (Pwr Transformer)
- ✓ Capacitor Bank Protective Relays
- ✓ Resonant Grounding Systems
- ✓ Composite Bushing Insulators

**TRENCH LIMITED**  
71 Maybrook Drive, Toronto ON M1V 4B6 Canada  
Tel.: 416-298-8108 • Fax: 416-298-2209  
www.trenchgroup.com

## REELS - HANDLING EQUIPMENT



### TEREX UTILITIES

Tel: (605) 882-5526 • Fax: (605) 882-5546  
www.terexutilities.com

## REELS - WIRE, GROUNDING

### COMMSCOPE BIMETALS

Tel: (704) 883-8015 • (800) 982-1708  
Fax: (704) 832-7548  
www.commscope.com  
bimetals@commscope.com

### HASTINGS FIBERGLASS PRODUCTS INC.

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hstings@hfgp.com

## REGULATORS, VOLTAGE-STEP TYPE

# SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## RELAY CONTROL

# SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## RELAYS

### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca



### RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

# SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## RELAYS - AUXILLIARY

# SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## RELAYS - FEEDER PROTECTION

### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca



### SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

# SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

### VIRELEC LTD.

Tel: (919) 325-8030 • Fax: (905) 569-6364  
www.virelec.com

## RELAYS - GENERATOR PROTECTION

### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca



### SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

The "New Generation" Duct Spacer  
**THE WUNPEECE**  
ONE PIECE DOES IT ALL!

- Replaces the Two Piece Base and Intermediate System
- Cuts Spacer Installation Time in Half
- Eliminates Weak Vertical Shear Plane in Concrete Encasement

**UNDERGROUND DEVICES INCORPORATED**  
3304 COMMERCIAL AVENUE • NORTHBRIDGE, ILLINOIS 60062  
Phone: (847) 285-9008 • Fax: (847) 285-9004  
Website: http://www.uddevices.com

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

### VIRELEC LTD.

Tel: (905) 569-8030 • Fax: (905) 569-6364  
www.virelec.com

## RELAYS - LINE PROTECTION

### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca

### RFL ELECTRONICS INC.

Tel: (973) 334-3100 • Fax: (973) 334-3863  
www.rflect.com



## SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

### VIRELEC LTD.

Tel: (905) 569-8030 • Fax: (905) 569-6364  
www.virelec.com

## RELAYS - MOTOR PROTECTION

### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca



## SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

## RELAYS - PROTECTION

### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca

### BECKWITH ELECTRIC COMPANY

Tel: (727) 544-2326 • Fax: (727) 546-0121  
www.beckwithelectric.com  
marketing@beckwithelectric.com



## SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## RELAYS - SUBSTATION AUTOMATION

### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca



## SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

### VIRELEC LTD.

Tel: (905) 569-8030 • Fax: (905) 569-6364  
www.virelec.com

## RELAYS - TRANSFORMER DIFFERENTIAL

### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca

### RFL ELECTRONICS INC.

Tel: (973) 334-3100 • Fax: (973) 334-3863  
www.rflect.com



## SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## RELAYS - TRANSFORMER OVERLOAD

### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca



## SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## RELAYS - TRANSFORMER PROTECTION

### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

### VIRELEC LTD.

Tel: (905) 569-8030 • Fax: (905) 569-6364  
www.virelec.com

## REMOTE - SITE MONITORING

### AEROTEC, LLC

Tel: (205) 428-6444 • Fax: (205) 428-2666  
www.aerotecusa.com  
jsimmons@aerotecusa.com

### MIKRON INFRARED INC.

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

## REMOTE CONTROL - EQUIPMENT

### CATTRON GROUP INTERNATIONAL

Tel: 724-962-3571 • Fax: 724-962-4310  
www.cattron.com • mail@cattron.com

## REMOTE INFORMATION SYSTEMS - AUTOMATIC

### TWACS BY DCSI

Tel: (314) 895-6400 • Fax: (314) 895-6543  
www.twacs.com • sales@twacs.com

## REMOTE TERMINAL UNITS



### RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com



### SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

### TELESCADA

Tel: 781-829-9228 • Fax: 781-829-9875  
www.telescada.com • sales@telescada.com

### TELVENT

Tel: Tel.: (713) 939-9399 • Fax: (713) 939-7424  
www.telvent.com  
info.usa@telvent.abengoa.com

### VIRELEC LTD.

Tel: (905) 569-8030 • Fax: (905) 569-6364  
www.virelec.com

## REMOTE TERMINAL UNITS - COMMUNICATIONS

### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## REMOTE VIDEO INSPECTION SYSTEMS

### AEROTEC, LLC

Tel: (205) 428-6444 • Fax: (205) 428-2666  
www.aerotecusa.com  
jsimmons@aerotecusa.com

### GE INPECTION TECHNOLOGIES

Tel: 888-332-3848 • Fax: 973-448-0044  
www.ge.com/inspectiontechnologies • info@ge.com

## RESISTORS - MOTOR CONTROL

### FILNOR INC.

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

## RESISTORS - NEUTRAL GROUNDING

### FILNOR INC.

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

## RESISTORS - POWER

### FILNOR INC.

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

## RETROFIT

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## ROPE - INSULATING

### THIES ELECTRICAL DISTRIBUTING CO.

Tel: (519) 621-2524 • Fax: (519) 740-1203  
www.djinfo.com/tedc • thiestedcca@aol.com

## SAFETY - CONSULTING & TRAINING

### ALTEC INDUSTRIES, INC.

Tel: (205) 991-7733 • Fax: (205) 981-2522  
www.altec.com

### COASTAL TRAINING TECHNOLOGIES CORP.

Tel: 757-4989014  
www.coastal.com • jill@coastal.com

## SAFETY - EQUIPMENT

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

## GRANSFORS BRUKS (CANADA) INC.

Tel: (905) 681-3993 • 1-866-922-2978  
Fax: (905) 681-0391  
www.gransfors.ca • canada@gransfors.ca

## HERCULES INDUSTRIES INC.

Tel: 1-800-345-2590 • Fax: (740) 494-2274  
www.herculock.com • dhook@herculock.com

## SAFETY - FALL PROTECTION EQUIPMENT

## THE BILCO COMPANY

Tel: (203) 934-6363  
www.bilco.com • bilco@bilco.com

## SAFETY - FIRST AID TRAINING

## WESTEX INC.

Tel: (773) 523-7000 • Fax: (773) 523-0965  
www.westexinc.com  
menright@westexinc.com

## SAFETY - FLAME RESISTANT, BREATHABLE GARMENTS



### CARHARTT, INC.

Tel: 1-800-217-2895 • Fax: (313) 271-6428  
www.carharttfr.com  
industrial\_sales@carhartt.com

# SOLUTIONS

Systems, Services, and Products  
for the Protection, Monitoring,  
Control, Automation, and Metering  
of Utility and Industrial  
Electric Power Systems  
Worldwide.

**SCHWEITZER  
ENGINEERING  
LABORATORIES**

*Making Electric Power Safer,  
More Reliable, and More Economical®*

Tel: 509.332.1890 • Fax: 509.332.7990  
email: info@selinc.com • www.selinc.com/seo7

## PRODUCTS & SERVICES

### GRANSFORS BRUKS (CANADA) INC.

Tel: (905) 681-3993 • 1-866-922-2978  
Fax: (905) 681-0391  
www.gransfors.ca • canada@gransfors.ca

### SAFETY - LINEMEN EQUIPMENT

#### BCL GLOVE LTD.

Tel: 418-852-2098 • (888) 225-4268  
Fax: 418-852-3330  
www.bclglove.ca • info@ganteriebcl.ca



#### CICAME ENERGIE INC.

Tel: (450) 679-7778 • Fax: (450) 679-9432  
info@cicame-energie.ca

#### HASTINGS FIBERGLASS PRODUCTS INC.

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hasting@hfgp.com

#### MEASUREMENT SYSTEMS INTERNATIONAL

Tel: 800-874-4320 • Fax: 206-244-8470  
www.msiscals.com • info@msiscals.com

#### THIES ELECTRICAL DISTRIBUTING CO.

Tel: (519) 621-2524 • Fax: (519) 740-1203  
www.djinfo.com/tedc • thiestedcca@aol.com

### SAFETY - SUPPLIES

#### PRESCO

Tel: 903.957.2245 • Fax: 903.893.2328  
www.presco.com • dbennett@presco.com

### SAFETY - TOOLS

#### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

#### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

### SAFETY ATTACHMENT DEVICES

#### WINOLA INDUSTRIAL INC.

Tel: (570) 378-3808 • Fax: (570) 378-2597  
www.winolaindustrial.com • winola@epix.net

### SAFETY EQUIPMENT - PERSONAL

#### BCL GLOVE LTD.

Tel: 418-852-2098 • (888) 225-4268  
Fax: 418-852-3330  
www.bclglove.ca • info@ganteriebcl.ca

#### WESTEX INC.

Tel: (773) 523-7000 • Fax: (773) 523-0965  
www.westexinc.com  
menright@westexinc.com

### SAFETY FOOTWEAR

#### L.P. ROYER INC.

Tel: 1-800-567-7693 • Fax: (819) 549-2584  
www.lproyer.com • client@lproyer.com

### SATELLITE - COMMUNICATIONS

#### RFL ELECTRONICS INC.

Tel: (973) 334-3100 • Fax: (973) 334-3863  
www.rflect.com

### SCADA

#### CONTROL MICROSYSTEMS

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

### SCADA - COMMUNICATIONS

#### CONTROL MICROSYSTEMS

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

#### DATA COMM FOR BUSINESS INC.

Tel: (217) 897-6600 • Fax: (217) 897-1331  
www.dcbnet.com • info@dcbnet.com

#### GARRETTCOM INC.

Tel: (510) 438-9071 • Fax: (510) 438-9072  
www.garrettcom.com • mktg@garrettcom.com

#### INDUCTIVE COMPONENTS MFG. INC.

Tel: (513) 752-4731 • Fax: (513) 752-4738  
www.icmlinc.com

#### MICROWAVE DATA SYSTEMS, INC.

Tel: (585) 242-9600 • Fax: (585) 242-9620  
www.microwavedata.com  
sales@microwavedata.com



#### RADIUS US INC.

Tel: (952) 469-1135 • Fax: (952) 469-1050  
www.radius.net • info-us@radius.net

#### RELIATRONICS INC.

Tel: 830-868-9400 • Fax: 830-868-9900  
www.reliatronics.com  
sales@reliatronics.com



#### RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

## SIEMENS

Global network of innovation

#### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

### SCADA - EMS ENGINEERING

#### INTERPRO CONSULTANTS INC.

Tel: (514) 321-4505 • Fax: (514) 321-0339  
www.interproconsulting.ca

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## SIEMENS

Global network of innovation

#### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

### SCADA - ENERGY CONTROL SYSTEMS

#### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca

#### CONTROL MICROSYSTEMS

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

## SIEMENS

Global network of innovation

#### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

### SCADA - INSTALLATION SERVICES

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### SCADA MAINTENANCE

## SIEMENS

Global network of innovation

#### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

### SCADA SYSTEMS

#### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca

#### CONTROL MICROSYSTEMS

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

#### MSE-TETRAGENICS

Tel: 406-533-6800 • Fax: 406-533-6818  
www.tetragenics.com  
jeff.hartwick@mse-ta.com

#### OPEN SYSTEMS INTERNATIONAL, INC.

Tel: (763) 551-0559 • Fax: (763) 551-0750  
www.osii.com • sales@osii.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

### TELVENT

Tel: Tel.: (713) 939-9399 • Fax: (713) 939-7424  
www.telvent.com  
info.usa@telvent.abengoa.com

### VIRELEC LTD.

Tel: (905) 569-8030 • Fax: (905) 569-6364  
www.virelec.com

### SEALS

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

### SPECIALTY SEALING TECHNOLOGIES

Tel: 205-620-1644 • Fax: 205-663-4238  
www.thesealguy.com • jwsealguy@aol.com

### SEALS - MECHANICAL

### COLT ATLANTIC SERVICES

Tel: (770) 831-8135 • (800) 229-2658  
Fax: (770) 831-8631  
www.coltonline.com • sales@coltonline.com

### SEALS - METERS

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

### INNER-TITE CORP.

Tel: (508) 829-6361 • Fax: (508) 829-4469  
www.inner-tite.com  
security@inner-tite.com

### SEALS - SECURITY

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

## CARLTON

### CARLTON INDUSTRIES INC.

Tel: 1-800-231-5988 • Fax: 1-800-231-5934  
www.carltonusa.com • sales@carltonusa.com

### INNER-TITE CORP.

Tel: (508) 829-6361 • Fax: (508) 829-4469  
www.inner-tite.com  
security@inner-tite.com

### SECURITY - EQUIPMENT

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

### DATA COMM FOR BUSINESS INC.

Tel: (217) 897-6600 • Fax: (217) 897-1331  
www.dcbnet.com • info@dcbnet.com

### INNER-TITE CORP.

Tel: (508) 829-6361 • Fax: (508) 829-4469  
www.inner-tite.com  
security@inner-tite.com

# NEUTRAL GROUNDING RESISTORS PROTECT YOUR POWER DISTRIBUTION EQUIPMENT

*Our advanced technology provides our clients with a reliable and economical solution to their needs.*



### CONTACT:

Filnor Inc.  
227 N. Freedom,  
Alliance, Ohio 44601, U.S.A.  
Phone: (330) 821-7667  
Fax: (330) 829-3175  
Website: www.filnor.com  
E-Mail: filnor@filnor.com



### Range

#### • ELECTRICAL CRITERIA:

- Rated fault current: from 1 to 5000 A
- Rated voltage: from 0.38 to 35 kV
- Rated time: from 1 sec to continuous time rating.

#### • MECHANICAL CRITERIA:

- Direct connection or through top or side mounted bushing
- Finishing: powder coated, stainless steel, mill galvanized, hot dip galvanized.

#### • OPTIONS:

- current transformer HV or LV
- ON or OFF load disconnected switches
- space heater
- elevating stands.

### ISO 9001 CERTIFIED



**SCHWEITZER ENGINEERING LABORATORIES INC.**

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

**TELTONE CORPORATION**

Tel: 425-951-3006  
www.teltone.com • jkutz@teltone.com

**SENSORS - CURRENT**

**MEGGER**

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

**SENSORS - CURRENT + VOLTAGE**

**MEGGER**

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

**SENSORS - FIBER OPTIC**



**FISO TECHNOLOGIES**

Tel: (418) 688-8065 • Fax: (418) 688-8067  
www.fiso.com • info@fiso.com



**NEOPTIX FIBER OPTIC SENSORS**

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

**SENSORS - FLAME DETECTORS**

**AMETEK INC.**

Tel: (610) 647-2121 • Fax: (610) 296-3412  
www.ametek.com

**SENSORS - TEMPERATURE**



**FISO TECHNOLOGIES**

Tel: (418) 688-8065 • Fax: (418) 688-8067  
www.fiso.com • info@fiso.com

**FLIR SYSTEMS**

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com



**NEOPTIX FIBER OPTIC SENSORS**

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

**SEPARATORS - STEAM**

**PENN SEPARATOR CORP.**

Tel: (814) 849-7328 • 1-800-255-6558  
Fax: (814) 849-4510  
www.pennseparator.com  
info@pennseparator.com

**SF6 GAS INSULATED SWITCHGEAR**

**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

**SIEMENS**

Global network of innovation

**SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

**SHIELDING, MAGNETIC**

**MAGNETIC SHIELD CORP.**

Tel: (630) 766-7800 • 1-800-304-5665  
Fax: (630) 766-2813  
www.magnetic-shield.com  
rdasso@magnetic-shield.com

**SIGNS**



**CARLTON INDUSTRIES INC.**

Tel: 1-800-231-5988 • Fax: 1-800-231-5934  
www.carltonusa.com • sales@carltonusa.com

**ELECTROMARK CO.**

Tel: (315) 594-8085 • 1-800-295-8247  
Fax: (315) 594-9622  
www.electromark.com  
customerservice@electromark.com

**SILENCERS - EXHAUST**

**PENN SEPARATOR CORP.**

Tel: (814) 849-7328 • 1-800-255-6558  
Fax: (814) 849-4510  
www.pennseparator.com  
info@pennseparator.com

**SOFTWARE**

**FLIR SYSTEMS**

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

**MIKRON INFRARED INC.**

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

**MILSOFT INTEGRATED SOLUTIONS INC.**

Tel: (325) 695-1642 • 1-800-344-5647  
Fax: (325) 690-0338  
www.milsoft.com • stephen@milsoft.com

**MOBILEDATAFORCE™ INC.**

Tel: (208) 384-1200 • Fax: (208) 384-1201  
www.mobiledataforce.com

**SOFTWARE - APPLICATION**

**FLIR SYSTEMS**

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

**MIKRON INFRARED INC.**

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

**OPENLINK, HEADQUARTERS**

Tel: 212-641-8787 • Fax: 212-641-8797  
www.olf.com • info@olf.com

**SOFTWARE - CAD/CAE**

**INTEGRATED ENGINEERING SOFTWARE**

Tel: 204 632 5636 • Fax: 204 633 7780  
www.integratedsoft.com  
kmedwid@integratedsoft.com

**SOFTWARE - DESIGN**

**MILSOFT INTEGRATED SOLUTIONS INC.**

Tel: (325) 695-1642 • 1-800-344-5647  
Fax: (325) 690-0338  
www.milsoft.com • stephen@milsoft.com

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

### SOFTWARE - ENGINEERING

#### BYERS ENGINEERING COMPANY

Tel: 404.497.1550 • Fax: 404.843.2000  
www.byers.com • info@byers.com

#### ETAP/OPERATION TECHNOLOGY, INC.

Tel: (949) 462-0100 • Fax: (949) 462-0200  
etap.com • sales@etap.com

#### INTERPRO CONSULTANTS INC.

Tel: (514) 321-4505 • Fax: (514) 321-0339  
www.interproconsulting.ca

#### MILSOFT INTEGRATED SOLUTIONS INC.

Tel: (325) 695-1642 • 1-800-344-5647  
Fax: (325) 690-0338  
www.milsoft.com • stephen@milsoft.com



#### POWEL - MINIMAX

Tel: (651) 251-3005 • Fax: (651) 251-3006  
www.powelminimax.com  
jeff.baumer@powelminimax.com

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

### SOFTWARE INTEGRATION

#### BARCO USUAL SOLUTIONS, LLC

Tel: (678) 475-8000 • Fax: (678) 475-8100  
www.barco.com

#### INTERPRO CONSULTANTS INC.

Tel: (514) 321-4505 • Fax: (514) 321-0339  
www.interproconsulting.ca

#### TELVENT

Tel: (713) 939-9399 • Fax: (713) 939-7424  
www.telvent.com  
info.usa@telvent.abengoa.com

### SOFTWARE SOLUTIONS

#### ALLEGRO

Tel: 214-237-8000 • Fax: 214-526-7076  
www.allegrodev.com • info@allegrodev.com

#### BARCO USUAL SOLUTIONS, LLC

Tel: (678) 475-8000 • Fax: (678) 475-8100  
www.barco.com

#### CONTROL MICROSYSTEMS

Tel: (613) 591-1943 • Fax: (613) 591-1022  
www.controlmicrosystems.com  
sales@controlmicrosystems.com

#### ETEKLOGICS

Tel: (800) 452-5251 • Fax: (440) 975-0876  
www.eteklogics.com  
tbrown@eteklogics.com

#### GENETEC INC

Tel: 514-332-4000 • Fax: 514-332-1692  
www.genetec.com • ederi@genetec.com

#### MILSOFT INTEGRATED SOLUTIONS INC.

Tel: (325) 695-1642 • 1-800-344-5647  
Fax: (325) 690-0338  
www.milsoft.com • stephen@milsoft.com

### SONET MULTIPLEXERS

#### COASTCOM

Tel: 800-433-3433 • Fax: 510-523-6150  
www.coastcom.com • jide@coastcom.com

#### RFL ELECTRONICS INC.

Tel: (973) 334-3100 • Fax: (973) 334-3863  
www.rflect.com

### SPACER - DAMPERS - BUNDLED CONDUCTOR



#### CICAME ENERGIE INC.

Tel: (450) 679-7778 • Fax: (450) 679-9432  
info@cicame-energie.ca

### SPACERS - BUNDLED CONDUCTOR

#### UNDERGROUND DEVICES INC.

Tel: (847) 205-9000 • Fax: (847) 205-9004  
www.udevices.com • jangelo@udevices.com

### SPACERS - DUCT

#### UNDERGROUND DEVICES INC.

Tel: (847) 205-9000 • Fax: (847) 205-9004  
www.udevices.com • jangelo@udevices.com

### SPACERS - UNDERGROUND CABLE AND CONDUIT

#### UNDERGROUND DEVICES INC.

Tel: (847) 205-9000 • Fax: (847) 205-9004  
www.udevices.com • jangelo@udevices.com

### SPILLS RESPONSE KIT

#### IMMEDIATE RESPONSE SPILL TECHNOLOGIES, LLC

Tel: (502) 267-0101 • (866) CIAGENT  
Fax: (502) 267-0181  
www.ciagent.com • terry@ciagent.com

#### SOLIDIFICATION PRODUCTS INTERNATIONAL INC.

Tel: (203) 484-9494 • (800) 758-3634  
Fax: (203) 484-9492  
www.oilbarriers.com

### SPLICES & ACCESSORIES - COMPRESSION JOINT

#### IMPLO TECHNOLOGIES

Tel: (905) 513-9084 • Fax: (905) 513-9083  
www.implotech.ca • info@implotech.ca

#### RICHARDS MANUFACTURING CO. SALES INC.

Tel: (973) 371-1771 • Fax: (973) 371-9538  
www.richards-mfg.com  
richardsales@richards-mfg.com

### SPLICES & ACCESSORIES - MOLDED

#### RICHARDS MANUFACTURING CO. SALES INC.

Tel: (973) 371-1771 • Fax: (973) 371-9538  
www.richards-mfg.com  
richardsales@richards-mfg.com

### SPLICES & ACCESSORIES - TENSION

#### HUBBELL CANADA LP

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com

#### IMPLO TECHNOLOGIES

Tel: (905) 513-9084 • Fax: (905) 513-9083  
www.implotech.ca • info@implotech.ca

### STAND BY POWER SYSTEMS

#### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

#### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

### STATIC - VAR COMPENSATION

#### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

### STATIC TRANSFER SWITCHES

#### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### STEAM - GENERATORS

#### INDECK POWER EQUIPMENT COMPANY

Tel: (847) 541-8300 • 1-800-446-3325  
Fax: (847) 541-9984  
www.indeck.com • info@indeck-power.com

## STEAM BOILERS (USED)

### INDECK POWER EQUIPMENT COMPANY

Tel: (847) 541-8300 • 1-800-446-3325  
Fax: (847) 541-9984  
www.indeck.com • info@indeck-power.com

## STEAM GENERATORS - SERVICES

### INDECK POWER EQUIPMENT COMPANY

Tel: (847) 541-8300 • 1-800-446-3325  
Fax: (847) 541-9984  
www.indeck.com • info@indeck-power.com

## STEEL - MANUFACTURERS



### LOCWELD INC.

Tel: (450) 659-9661 • Fax: (450) 444-3111  
www.locweld.com • info@locweld.com

### SABRE TUBULAR STRUCTURES

Tel: (817) 294-7210 • (866) 254-3707  
Fax: (817) 294-8366  
www.sabrecom.com  
utilitiesales@sabrecom.com

## STEEL - STRUCTURAL

### SABRE TUBULAR STRUCTURES

Tel: (817) 294-7210 • (866) 254-3707  
Fax: (817) 294-8366  
www.sabrecom.com  
utilitiesales@sabrecom.com

## STEEL PRODUCTS - CUSTOM FABRICATION

### DIS-TRAN PACKAGED SUBSTATIONS, LLC

Tel: (318) 448-0274 • Fax: (318) 445-7240  
www.distran.com

### HIGHWAY SAFETY CORP.

Tel: 800-544-4929 • Fax: 860-633-2274  
www.highwaysafety.net  
fluszc@highwaysafety.net

### WINOLA INDUSTRIAL INC.

Tel: (570) 378-3808 • Fax: (570) 378-2597  
www.winolaindustrial.com • winola@epix.net

## STICKS - DISCONNECT

### HASTINGS FIBERGLASS PRODUCTS INC.

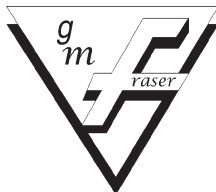
Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hasting@hfgp.com

## STICKS - HOT

### HASTINGS FIBERGLASS PRODUCTS INC.

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hasting@hfgp.com

## STREET LIGHTING - PHOTO CONTROLS



### GEORGE M. FRASER LTD (LACHUTE)

Tel: (450) 562-0771 • Fax: (450) 562-0441  
www.gmfraser.com • ralph@gmfraser.com

## STREETLIGHTING EQUIPMENT

### MCM INTERNATIONAL

Tel: (514) 918-2511 • Fax: (514) 486-0091  
www.mcmstructures.com

## STRIPPERS - CABLE INSULATION

### GREENBERG ENGINEERING CO.

Tel: 610-660-0655  
billg19004@yahoo.com

## STRUCTURE - PREFABRICATED

### DIS-TRAN PACKAGED SUBSTATIONS, LLC

Tel: (318) 448-0274 • Fax: (318) 445-7240  
www.distran.com

## SUBSTATION



### CANNON TECHNOLOGIES

Tel: (402) 498-2797 • Fax: (402) 498-4437  
www.cannontech.com • doug@cannontech.com

### DIS-TRAN PACKAGED SUBSTATIONS, LLC

Tel: (318) 448-0274 • Fax: (318) 445-7240  
www.distran.com

### HAMBY YOUNG

Tel: (330) 562-8444 • (800) 726-8444  
Fax: (330) 562-4018  
www.hambyyoung.com  
rjhamby@hambyyoung.com

### RUMSEY ELECTRIC CO

Tel: 484-686-7216 • Fax: 610-941-3910  
www.rumseyus.com • cjones@rumsey.com

## SUBSTATION - COMMUNICATION EQUIPMENT

### GARRETTCOM INC.

Tel: (510) 438-9071 • Fax: (510) 438-9072  
www.garrettcom.com • mktg@garrettcom.com

### MICROWAVE DATA SYSTEMS, INC.

Tel: (585) 242-9600 • Fax: (585) 242-9620  
www.microwavedata.com  
sales@microwavedata.com

### RFL ELECTRONICS INC.

Tel: (973) 334-3100 • Fax: (973) 334-3863  
www.rflect.com



### RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

### TWACS BY DCSI

Tel: (314) 895-6400 • Fax: (314) 895-6543  
www.twacs.com • sales@twacs.com

## SUBSTATION - COMMUNICATIONS

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## SUBSTATION - GAS-INSULATED

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## SUBSTATION - METAL-ENCLOSED

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## SUBSTATION - MOBILE

### HAMBY YOUNG

Tel: (330) 562-8444 • (800) 726-8444  
Fax: (330) 562-4018  
www.hambyyoung.com  
rjhamby@hambyyoung.com

## PAUWELS CANADA INC.

Tel: (204) 452-7446 • 1-800-665-9450  
Fax: (204) 284-2696  
www.pauwels.com • info@pauwels.com

## SUBSTATION - REACTIVE COMPENSATION

## SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## SUBSTATION - STEEL, STRUCTURE

## DIS-TRAN PACKAGED SUBSTATIONS, LLC

Tel: (318) 448-0274 • Fax: (318) 445-7240  
www.distran.com



## FWT INC.

Tel: (817) 255-2996 • Fax: (817) 255-2957  
www.fwtinc.com

## HAMBY YOUNG

Tel: (330) 562-8444 • (800) 726-8444  
Fax: (330) 562-4018  
www.hambyyoung.com  
rjhamby@hambyyoung.com

## J & Y ENGINEERING SERVICES INC.

Tel: (440) 891-1130 • Fax: (440) 891-1131  
www.jyengineering.com  
gjohnston@jyengineering.com

## SABRE TUBULAR STRUCTURES

Tel: (817) 294-7210 • (866) 254-3707  
Fax: (817) 294-8366  
www.sabrecom.com  
utilitysales@sabrecom.com

## SUBSTATION - SUBSTATION - HVDC

## SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## SUBSTATION - UNIT

## S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## SUBSTATION - WOOD, TREATED

## HUGHES BROTHERS INC.

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

## SUBSTATION AUTOMATION

## DAVID SPLAWN AND ASSOCIATES

Tel: 253.678-2661 • Fax: 206-350-6482  
www.dsacom.com • tim@dsacom.com

## GARRETTCOM INC.

Tel: (510) 438-9071 • Fax: (510) 438-9072  
www.garrettcom.com • mktg@garrettcom.com



## KEMA INC.

Tel: (781) 273-5700 • Fax: (781) 229-4867  
www.kema.com • info@kemaconsulting.com

## KEMA INC. (ENGLEWOOD)

Tel: (303) 708-9355 • Fax: (303) 708-9356  
www.kema.com • info@kemaconsulting.com

## S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com



## SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

## SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## TELVENT

Tel: Tel.: (713) 939-9399 • Fax: (713) 939-7424  
www.telvent.com  
info.usa@telvent.abengoa.com

## SUBSTATION CONTROL BUILDINGS



## FWT INC.

Tel: (817) 255-2996 • Fax: (817) 255-2957  
www.fwtinc.com

## SUBSTATION DESIGN & CONSTRUCTION

## BETA ENGINEERING, LLC

Tel: 318-487-9599 • Fax: 318-442-1741  
www.betaengineering.com  
kristine.hussong@betaengineering.com

## MASTEC ENERGY SERVICES

Tel: (800) 280-6570 • Fax: (704) 599-9824  
www.mastec.com  
barry.batson@mastec.com



## PSD, INC.

Tel: (330) 452-4434 • Fax: (330) 453-5047  
www.psdohio.com  
psdinfo@waukesha.spx.com

## S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## SURGE PROTECTION EQUIPMENT

## S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## SURGE PROTECTORS

## BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

## BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

## SUSPENSION ARMS, POLE - STEEL

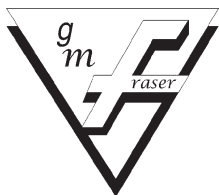
## HUGHES BROTHERS INC.

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

## SWITCHES

## FILNOR INC.

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com



**GEORGE M. FRASER LTD  
(LACHUTE)**

Tel: (450) 562-0771 • Fax: (450) 562-0441  
www.gmfraser.com • ralph@gmfraser.com

**GEORGE M. FRASER LTD  
(PICKERING)**

Tel: (905) 428-8878 • Fax: (905) 428-3772  
www.gmfraser.com • sales@gmfraser.com

**HUBBELL CANADA LP**

Tel: (905) 839-1138 • Fax: (905) 831-6353  
www.hubbellpowersystems.ca  
infohps@hubbell-canada.com



**RUGGED COM INC.**

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com



**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

**SWITCHES - AIR, GROUP-OPERATED**

**FILNOR INC.**

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

**SWITCHES - CAPACITORS**

**JOSLYN HI-VOLTAGE**

Tel: 216-271-6600 • Fax: 216-341-3615  
www.joslynhivoltage.com • info@joslynhv.com

**MAYSTEEL LLC**

Tel: (262) 251-1632 • 1-800-255-1247  
Fax: (262) 251-8307  
www.maysteel.com

**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

**SWITCHES - CAPACITORS BANK**

**MAYSTEEL LLC**

Tel: (262) 251-1632 • 1-800-255-1247  
Fax: (262) 251-8307  
www.maysteel.com

**REGENCY TECHNOLOGIES INC.**

Tel: (317) 543-9740 • 1-800-376-7356  
Fax: (317) 543-9746  
www.regencytec.com • regencytech@juno.com

**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

**SWITCHES - DISCONNECT**

**FILNOR INC.**

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

**SWITCHES - DISCONNECT 25 TO  
800KV**

**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

**SWITCHES - GAS-FILLED**

**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

**SWITCHES - HOOKSTICK, DISCON-  
NECTING**

**FILNOR INC.**

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

**SWITCHES - ISOLATION**

**FILNOR INC.**

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

**SWITCHES - LEVEL AND PRESSURE**



**AUTOMATION PRODUCTS INC. -  
DYNATROL® DIVISION MAXROY**

Tel: (713) 869-0361 • 1-800-231-2067  
Fax: (713) 869-7332  
www.dynatrolusa.com

**DWYER INSTRUMENTS INC**

Tel: (219) 879-8000 • 1-800-872-9141  
Fax: (219) 872-9057  
www.dwyer-inst.com • lit@dwyer-inst.com

**SWITCHES - METER DISCONNECT**

**COMVERGE, INC.**

Tel: (888) 565-5525 • Fax: (973) 884-3504  
www.comverge.com • sales@comverge.com

**SWITCHES - MOTOR-OPERATED**

**FILNOR INC.**

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

**RICHARDS MANUFACTURING CO.  
SALES INC.**

Tel: (973) 371-1771 • Fax: (973) 371-9538  
www.richards-mfg.com  
richardsales@richards-mfg.com

**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

**SWITCHES - OIL**

**MAYSTEEL LLC**

Tel: (262) 251-1632 • 1-800-255-1247  
Fax: (262) 251-8307  
www.maysteel.com

**SWITCHES - PADMOUNTED**

**PARK ELECTRIC**

Tel: (313) 366-2200 • Fax: (313) 366-1540  
www.parkdetroit.com

**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

**SCOTT ENGINEERING INC.**

Tel: 909-594-9637 • Fax: 909-595-0379  
bob.b@scott-eng.com

**SWITCHES - REGULATOR, BYPASS**

**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

**SWITCHES - SAFETY, DISCONNECT  
DEVICES**

**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

**SWITCHES - SUBMERSIBLE**

**RICHARDS MANUFACTURING CO.  
SALES INC.**

Tel: (973) 371-1771 • Fax: (973) 371-9538  
www.richards-mfg.com  
richardsales@richards-mfg.com

**S&C ELECTRIC COMPANY**

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## SWITCHES - SUBSTATION, DISCONNECTING

### FILNOR INC.

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## SWITCHES - TEST

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

### FILNOR INC.

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## SWITCHES - THROWOVER, AUTOMATIC

### FILNOR INC.

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## SWITCHES - TRANSFER

### FILNOR INC.

Tel: (330) 821-7667 • Fax: (330) 829-3175  
www.filnor.com • filnor@filnor.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## SWITCHES - VACUUM

### MAYSTEEL LLC

Tel: (262) 251-1632 • 1-800-255-1247  
Fax: (262) 251-8307  
www.maysteel.com

## SWITCHGEAR



### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com



## Improve your agility Provide a window on your company

Barco's iUniques display solutions contribute considerably by providing a highly versatile display wall, enabling an overview of the entire facility at a glance, as well as operation data details

iUniques display solutions consist of display walls with cutting edge projection technologies, various screen sizes and resolutions up to SXGA<sup>+</sup> for accomplishing virtually all requirements in control centers designed for 24/7 usage

Visit Barco at  
CIGRE '06 - Paris, France - booth #27  
27 August - 1 September  
DistribUTECH '07 - San Diego, USA - booth #528  
4 - 6 February



www.barcocontrolrooms.com

Visit us

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## SWITCHGEAR - ARC RESISTANT - MEDIUM VOLTAGE

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## SWITCHGEAR - DC TRACTION

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## SWITCHGEAR - HIGH VOLTAGE

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## SWITCHGEAR - MEDIUM VOLTAGE RANGE UP TO 44 KV

### MAYSTEEL LLC

Tel: (262) 251-1632 • 1-800-255-1247  
Fax: (262) 251-8307  
www.maysteel.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## SWITCHGEAR - METAL ENCLOSED

### PARK ELECTRIC

Tel: (313) 366-2200 • Fax: (313) 366-1540  
www.parkdetroit.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## SWITCHGEAR - PARALLEL

### PARK ELECTRIC

Tel: (313) 366-2200 • Fax: (313) 366-1540  
www.parkdetroit.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com



### DIS-TRAN Packaged Substations, LLC

Equipment & Materials  
Engineering & Project Management  
Manufacturing  
Superior Customer Service

### DIS-TRAN Steel Pole, LLC

Transmission Poles  
Substation Structures  
Specialty Structures  
Wood Pole Equivalents

### DIS-TRAN Steel Fabrication, LLC

Substation Support Structures  
Transmission Towers  
Specialty Structures  
Communication Structures

### DIS-TRAN Wood Products, LLC

Douglas Fir & Southern Yellow Pine  
Distribution Crossarms  
Transmission Timbers  
Braces

## DIS-TRAN CAN MAKE YOUR PROJECT HAPPEN

4725 Hwy 28 East, Pineville, LA 71360 Phone: (318) 448-0274 Fax: (318) 487-8234 www.distran.com

On Time • On Budget • Superior Quality • Solid Integrity

## SWITCHGEAR - REBUILDING AND REPAIR SERVICE

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## SWITCHGEAR - SF6

## S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## SWITCHGEAR - VACUUM

# SIEMENS

Global network of innovation

## SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## SYNCHRONIZERS - AUTOMATIC

## ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca

## BECKWITH ELECTRIC COMPANY

Tel: (727) 544-2326 • Fax: (727) 546-0121  
www.beckwithelectric.com  
marketing@beckwithelectric.com

## SYSTEMS INTEGRATOR



## LOGICA CMG

Tel: (713) 954-7000 • Fax: (713) 785-0880  
www.logicacmg.com/us  
sue.wilson@logicacmg.com

## VIRELEC LTD.

Tel: (905) 569-8030 • Fax: (905) 569-6364  
www.virelec.com

## TACHOMETERS

## MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## TAGS

# CARLTON

## CARLTON INDUSTRIES INC.

Tel: 1-800-231-5988 • Fax: 1-800-231-5934  
www.carltonusa.com • sales@carltonusa.com

## ELECTROMARK CO.

Tel: (315) 594-8085 • 1-800-295-8247  
Fax: (315) 594-9622  
www.electromark.com  
customerservice@electromark.com

## LEM PRODUCTS INC.

Tel: 215-348-9900 • Fax: 215-348-1414  
www.lemproductsinc.com  
lfierle@lemproductsinc.com

## TANKS - OIL STORAGE

## AERO TEC LABORATORIES INC

Tel: 800-526-5330 • Fax: 201 825- 4974  
www.atlinc.com • atl@atlinc.com

## TAP CHANGERS

## KELMAN

Tel: (773) 944-0693 • Fax: (773) 944-0690  
www.kelman.co.uk

## TAP CHANGERS - CONTROLS

## INDUCTIVE COMPONENTS MFG. INC.

Tel: (513) 752-4731 • Fax: (513) 752-4738  
www.icmlinc.com



## NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

## TAP CHANGERS - TRANSFORMERS - LOAD, NO-LOAD

## PAUWELS CANADA INC.

Tel: (204) 452-7446 • 1-800-665-9450  
Fax: (204) 284-2696  
www.pauwels.com • info@pauwels.com

## TAPE

# CARLTON

## CARLTON INDUSTRIES INC.

Tel: 1-800-231-5988 • Fax: 1-800-231-5934  
www.carltonusa.com • sales@carltonusa.com

## TELECOMMUNICATIONS

## WINDSTREAM SUPPLY, INC.

Tel: (678) 351-8208 • 1-800-ALLTEL  
Fax: (678) 351-8597  
www.windstreamsupply.com



## RUGGED COM INC.

Tel: (905) 856-5288 • (888) 264-0006  
Fax: (905) 856-1995  
www.ruggedcom.com

## TELECOMMUNICATIONS - CONSULTING

## KEMA INC. (ENGLEWOOD)

Tel: (303) 708-9355 • Fax: (303) 708-9356  
www.kema.com  
info@kemaconsulting.com

## TELECOMMUNICATIONS - DC POWER

## GARRETTCOM INC.

Tel: (510) 438-9071 • Fax: (510) 438-9072  
www.garrettcom.com • mktg@garrettcom.com



*Hamby Young has been packaging high voltage materials (15kv - 765kv) for the Electric Utility market for over 30 years. With expertise in Substation, Transmission, Overhead and Underground Distribution, Hamby Young is able to provide support for the numerous applications necessary to complete your project. With an efficient and cost effective approach, Hamby Young provides support to meet your proposal deadlines and coordinated project management to meet your delivery dates.*

### Contact Information:

*Mike Brumbaugh*  
P: 928-445-5434  
F: 928-445-5435

www.hambyyoung.com

# PAUWELS

ENERGY IS OUR BUSINESS

## PAUWELS CANADA INC.

**World Class Manufacturer  
of Power Transformers  
for the North American  
Electrical Industry**

**Substation  
Step-down  
Autotransformer  
Generator Step-up  
HVDC Converter  
Mobile Substations**

**Pauwels Canada Inc.**  
101 Rockman Street  
Winnipeg, Manitoba R3T 0L7  
Telephone: (204) 452-7446  
Fax: (204) 453-8644  
[www.pauwels.com](http://www.pauwels.com)

**QUALITY IS OUR MISSION**

### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
[www.sbsbattery.com](http://www.sbsbattery.com) • [maxm@sbsbattery.com](mailto:maxm@sbsbattery.com)

### TELECOMMUNICATIONS - MICROWAVES, RADIO SYSTEMS/SERVICES

#### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
[www.abb.ca](http://www.abb.ca)

#### CONTROL MICROSYSTEMS

Tel: (613) 591-1943 • Fax: (613) 591-1022  
[www.controlmicrosystems.com](http://www.controlmicrosystems.com)  
[sales@controlmicrosystems.com](mailto:sales@controlmicrosystems.com)

#### LAMBDA COMMUNICATIONS LTD

Tel: +64 3 312 0023 • Fax: +64 3 312 0043  
[www.lambda.co.nz](http://www.lambda.co.nz) • [info@lambda.co.nz](mailto:info@lambda.co.nz)

#### MICROWAVE DATA SYSTEMS, INC.

Tel: (585) 242-9600 • Fax: (585) 242-9620  
[www.microwavedata.com](http://www.microwavedata.com)  
[sales@microwavedata.com](mailto:sales@microwavedata.com)

### TELECOMMUNICATIONS - SATELLITE

#### RFL ELECTRONICS INC.

Tel: (973) 334-3100 • Fax: (973) 334-3863  
[www.rflect.com](http://www.rflect.com)

### TELEMETRY

#### CONTROL MICROSYSTEMS

Tel: (613) 591-1943 • Fax: (613) 591-1022  
[www.controlmicrosystems.com](http://www.controlmicrosystems.com)  
[sales@controlmicrosystems.com](mailto:sales@controlmicrosystems.com)

### TELEMETRY EQUIPMENT

#### CONTROL MICROSYSTEMS

Tel: (613) 591-1943 • Fax: (613) 591-1022  
[www.controlmicrosystems.com](http://www.controlmicrosystems.com)  
[sales@controlmicrosystems.com](mailto:sales@controlmicrosystems.com)

#### MICROWAVE DATA SYSTEMS, INC.

Tel: (585) 242-9600 • Fax: (585) 242-9620  
[www.microwavedata.com](http://www.microwavedata.com)  
[sales@microwavedata.com](mailto:sales@microwavedata.com)

### TEMPERATURE MONITORING



#### FISO TECHNOLOGIES

Tel: (418) 688-8065 • Fax: (418) 688-8067  
[www.fiso.com](http://www.fiso.com) • [info@fiso.com](mailto:info@fiso.com)

#### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
[www.flirthermography.com](http://www.flirthermography.com) • [moreinfo@flir.com](mailto:moreinfo@flir.com)



## LUXTRON

Tel: (408) 727-1600 • Fax: (408) 727-1677  
www.luxtron.com • info@luxtron.com



## NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

## TERMINAL BLOCKS

## MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## TEST - MEASURING EQUIPMENT

## AMREL / AMERICAN RELIANCE, INC.

Tel: 626-443-6818  
www.amrel.com • anthonyv@amrel.com

## FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

## HD ELECTRIC COMPANY

Tel: (847) 473-4980 • Fax: (847) 473-4981  
www.hdelectriccompany.com  
khuggins@hdelectriccompany.com

## MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com



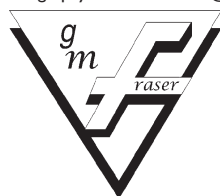
## NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

## TEST EQUIPMENT

## FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com



## GEORGE M. FRASER LTD (LACHUTE)

Tel: (450) 562-0771 • Fax: (450) 562-0441  
www.gmfraser.com • ralph@gmfraser.com

## GEORGE M. FRASER LTD (PICKERING)

Tel: (905) 428-8878 • Fax: (905) 428-3772  
www.gmfraser.com • sales@gmfraser.com

## MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## OMICRON ELECTRONICS CORP. USA

Tel: 1-800-omicron  
www.omicronusa.com • info@omicronusa.com

## RTDS TECHNOLOGIES, INC.

Tel: (204) 989-9700 • Fax: (204) 452-4303  
www.rtds.com

## TEQAL INC.

Tel: 514-894-9403 • Fax: 450-659-6972  
www.teqal.com • andre@teqal.com

## TEST EQUIPMENT - AERIAL LIFT

## PHENIX TECHNOLOGIES INC.

Tel: (301) 746-8118 • Fax: (301) 895-5570  
www.phenixtech.com • info@phenixtech.com

## TEST EQUIPMENT - BATTERIES

## MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## PROG USA - PROGRAMMA

Tel: (407) 332-8678 • Fax: (407) 332-8894  
www.progusa.net • kime@progusa.net

## STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

## TEST EQUIPMENT - BLANKET

## THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

## TEST EQUIPMENT - CAPACITANCE

## MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

## TEST EQUIPMENT - CIRCUIT BREAKER

## HIGH VOLTAGE INC.

Tel: (518) 329-3275 • Fax: (518) 329-3271  
www.hvinc.com • sales@hvinc.com

## KELMAN

Tel: (773) 944-0693 • Fax: (773) 944-0690  
www.kelman.co.uk

## MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## PHENIX TECHNOLOGIES INC.

Tel: (301) 746-8118 • Fax: (301) 895-5570  
www.phenixtech.com • info@phenixtech.com

## PROG USA - PROGRAMMA

Tel: (407) 332-8678 • Fax: (407) 332-8894  
www.progusa.net • kime@progusa.net

## ZENSOL AUTOMATION INC.

Tel: (514) 333-3488 • Fax: (514) 333-3499  
www.zensol.com • zensol@zensol.com

## TEST EQUIPMENT - ELECTRICAL

## HIGH VOLTAGE INC.

Tel: (518) 329-3275 • Fax: (518) 329-3271  
www.hvinc.com • sales@hvinc.com

## HIPOTRONICS INC.

Tel: (845) 279-3644 • Fax: (845) 279-2467  
www.hipotronics.com  
sales@hipotronics.com

## MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## REPTAME EQUIPMENT INC.

Tel: (905) 936-6979  
www.reptame.com • duane@reptame.com

## TEST EQUIPMENT - FAULT

## HIGH VOLTAGE INC.

Tel: (518) 329-3275 • Fax: (518) 329-3271  
www.hvinc.com • sales@hvinc.com

## MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

## TEST EQUIPMENT - FIBER OPTIC

## MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## TEST EQUIPMENT - GLOVE

## MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## PHENIX TECHNOLOGIES INC.

Tel: (301) 746-8118 • Fax: (301) 895-5570  
www.phenixtech.com • info@phenixtech.com

## THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

## TEST EQUIPMENT - HIGH VOLTAGE

## HASTINGS FIBERGLASS PRODUCTS INC.

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hastings@hfgp.com

## HIGH VOLTAGE INC.

Tel: (518) 329-3275 • Fax: (518) 329-3271  
www.hvinc.com • sales@hvinc.com

## PRODUCTS & SERVICES

### HIPOTRONICS INC.

Tel: (845) 279-3644 • Fax: (845) 279-2467  
www.hipotronics.com  
sales@hipotronics.com

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### PHENIX TECHNOLOGIES INC.

Tel: (301) 746-8118 • Fax: (301) 895-5570  
www.phenixtech.com • info@phenixtech.com

### THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

## TEST EQUIPMENT - HV IMPULSE

### HIPOTRONICS INC.

Tel: (845) 279-3644 • Fax: (845) 279-2467  
www.hipotronics.com  
sales@hipotronics.com

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### PHENIX TECHNOLOGIES INC.

Tel: (301) 746-8118 • Fax: (301) 895-5570  
www.phenixtech.com • info@phenixtech.com

### THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

## TEST EQUIPMENT - HV TEST SETS, PORTABLE

### HASTINGS FIBERGLASS PRODUCTS INC.

Tel: (269) 945-9541 • Fax: (269) 945-4623  
www.hfgp.com • hstings@hfgp.com

### HD ELECTRIC COMPANY

Tel: (847) 473-4980 • Fax: (847) 473-4981  
www.hdelectriccompany.com  
khuggins@hdelectriccompany.com

### HIGH VOLTAGE INC.

Tel: (518) 329-3275 • Fax: (518) 329-3271  
www.hvinc.com • sales@hvinc.com

### HIPOTRONICS INC.

Tel: (845) 279-3644 • Fax: (845) 279-2467  
www.hipotronics.com  
sales@hipotronics.com

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### OMICRON ELECTRONICS CORP. USA

Tel: 1-800-omicron  
www.omicronusa.com • info@omicronusa.com

### PHENIX TECHNOLOGIES INC.

Tel: (301) 746-8118 • Fax: (301) 895-5570  
www.phenixtech.com • info@phenixtech.com

### THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

## TEST EQUIPMENT - INSTRUMENT TRANSFORMER

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## TEST EQUIPMENT - INSULATION

### HIGH VOLTAGE INC.

Tel: (518) 329-3275 • Fax: (518) 329-3271  
www.hvinc.com • sales@hvinc.com

### HIPOTRONICS INC.

Tel: (845) 279-3644 • Fax: (845) 279-2467  
www.hipotronics.com  
sales@hipotronics.com

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### PHENIX TECHNOLOGIES INC.

Tel: (301) 746-8118 • Fax: (301) 895-5570  
www.phenixtech.com • info@phenixtech.com

### PROG USA - PROGRAMMA

Tel: (407) 332-8678 • Fax: (407) 332-8894  
www.progusa.net • kime@progusa.net

### THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com



# THE POWER IS SIMULATED. THE LEADERSHIP IS REAL.



The face of the utility world is changing rapidly. Real-Time Digital Simulation provides the link between theory and practical operation of complex, new power systems. For the most powerful and advanced simulation tools available today, the world depends on RTDS Technologies.

With over 80 RTDS Simulators installed worldwide including the world's largest and most advanced simulator, RTDS provides unparalleled, powerful leadership.

#### Power System Applications Include:

Control System Testing - HVDC SVC FACTS Generation

Protective Relay Testing - Line Generator Transformer

General Power System Studies - Small to Large Scale with Stability Format Conversion

Education and Training - Experimentation Demonstrations Research



REAL TIME DIGITAL SIMULATION FOR THE POWER INDUSTRY



RTDS Technologies Inc. 3005-137 Innovation Drive Winnipeg,  
Manitoba Canada R3T 6B6  
Tel: 204 989 9700 Fax: 204 452 4303  
Email: rtids@rtids.com Website: http://www.rtids.com

## TEST EQUIPMENT - LIGHTNING ARRESTERS

### HIGH VOLTAGE INC.

Tel: (518) 329-3275 • Fax: (518) 329-3271  
www.hvinc.com • sales@hvinc.com

## TEST EQUIPMENT - METER TEST BOARDS

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

## TEST EQUIPMENT - METER TEST SETS

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### OMICRON ELECTRONICS CORP. USA

Tel: 1-800-omicron  
www.omicronusa.com • info@omicronusa.com

## TEST EQUIPMENT - MOISTURE

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

## TEST EQUIPMENT - OIL

### HIGH VOLTAGE INC.

Tel: (518) 329-3275 • Fax: (518) 329-3271  
www.hvinc.com • sales@hvinc.com

### HIPOTRONICS INC.

Tel: (845) 279-3644 • Fax: (845) 279-2467  
www.hipotronics.com  
sales@hipotronics.com

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## TEST EQUIPMENT - RECLOSERS

### HIGH VOLTAGE INC.

Tel: (518) 329-3275 • Fax: (518) 329-3271  
www.hvinc.com • sales@hvinc.com

### PHENIX TECHNOLOGIES INC.

Tel: (301) 746-8118 • Fax: (301) 895-5570  
www.phenixtech.com • info@phenixtech.com

### ZENSOL AUTOMATION INC.

Tel: (514) 333-3488 • Fax: (514) 333-3499  
www.zensol.com • zensol@zensol.com

## TEST EQUIPMENT - RELAY

### HIPOTRONICS INC.

Tel: (845) 279-3644 • Fax: (845) 279-2467  
www.hipotronics.com  
sales@hipotronics.com

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### OMICRON ELECTRONICS CORP. USA

Tel: 1-800-omicron  
www.omicronusa.com • info@omicronusa.com

### PROG USA - PROGRAMMA

Tel: (407) 332-8678 • Fax: (407) 332-8894  
www.progusa.net • kime@progusa.net

### RTDS TECHNOLOGIES, INC.

Tel: (204) 989-9700 • Fax: (204) 452-4303  
www.rtds.com

## TEST EQUIPMENT - SAFETY AND INSTRUMENTS

### BROOKS UTILITY PRODUCTS GROUP

Tel: 888-687-3008

### BROOKS UTILITY PRODUCTS GROUP (BROOKS EKSTROM)

Tel: 888-687-3008

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## TEST EQUIPMENT - SLEEVE, RUBBER

### PHENIX TECHNOLOGIES INC.

Tel: (301) 746-8118 • Fax: (301) 895-5570  
www.phenixtech.com • info@phenixtech.com

### THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

## TEST EQUIPMENT - TRANSFORMERS

### HIGH VOLTAGE INC.

Tel: (518) 329-3275 • Fax: (518) 329-3271  
www.hvinc.com • sales@hvinc.com

### HIPOTRONICS INC.

Tel: (845) 279-3644 • Fax: (845) 279-2467  
www.hipotronics.com  
sales@hipotronics.com

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### PHENIX TECHNOLOGIES INC.

Tel: (301) 746-8118 • Fax: (301) 895-5570  
www.phenixtech.com • info@phenixtech.com

## TEST EQUIPMENT - WATTMETER

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

## TEST SYSTEMS/COMPONENTS - HIGH VOLTAGE, HIGH CURRENT, HIGH POWER

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

ENHANCED DISTRIBUTION PERFORMANCE

HIGH RELIABILITY | EXTREME DURABILITY




## SmartBank™

Harmonic Filter Banks

Medium voltage; pad-mount and metal enclosed;  
fully wired, tested and assembled to exact specifications

Power Capacitor Banks

Pad-mount or pole-mount; metal enclosed; customizable

## FlexiGear™

Air-insulated switchgear in multiple ratings and configurations

## Trinetics™

Capacitor switches, including top-performing  
UltraVac™ solid dielectric vacuum switches

CALL 877-219-9728  
www.maysteel.com



©2006 Maysteel, LLC

## PRODUCTS & SERVICES

### THE VON CORPORATION

Tel: (205) 788-2437 • Fax: (205) 780-4015  
www.voncorp.com • voncorp@voncorp.com

### TESTING - REGULATORS

#### RTDS TECHNOLOGIES, INC.

Tel: (204) 989-9700 • Fax: (204) 452-4303  
www.rtds.com

### TESTING - TRANSFORMERS, LIQUID



#### NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

#### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

### TESTING & SALES OF PROTECTIVE EQUIPMENT - INSULATED

#### BURLINGTON SAFETY LABORATORY (NJ)

Tel: 1-609-387-3404 • Fax: 1-609-387-3406  
www.burlingtonsafety.com  
psenin@burlingtonsafety.com

### TESTING INSTRUMENTATION

#### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

### TESTING INSTRUMENTS - ELECTRONIC MEASURE

#### SIGNALCRAFTERS TECH, INC

Tel: 973-781-0880 • Fax: 973-781-9044  
www.signalcrafters.com  
davej@signalcrafters.com

### TESTING SERVICES

#### RTDS TECHNOLOGIES, INC.

Tel: (204) 989-9700 • Fax: (204) 452-4303  
www.rtds.com

#### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

#### TRINITY ANALYTICAL LABS, INC.

Tel: 800-722-8378 • Fax: 620-328-2033  
www.e-trinitylabs.com  
duane.k@e-trinitylabs.com

#### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

### TESTING SERVICES - BATTERIES

#### STORAGE BATTERY SYSTEMS INC.

Tel: (262) 703-5800 • 1-800-554-2243  
Fax: (262) 703-3073  
www.sbsbattery.com • maxm@sbsbattery.com

### TESTING SERVICES - CORONA LOCATING

#### OFIL LTD

Tel: +972-8 9 407 953 • Fax: +972-8 9 407 873  
www.ofilsystems.com • ofil@ofilsystems.com

#### OX CREEK ENERGY

Tel: (608) 589-5510 • (800) 531-6232  
Fax: (608) 589-5509  
www.ox-creek-energy.com • oxcreek@maqs.net

### TESTING SERVICES - ELECTRICAL

#### BURLINGTON SAFETY LABORATORY

Tel: 1-714-373-2801 • Fax: 1-714-373-2805  
www.burlingtonsafety.com  
globe-research@juno.com

#### ELECTRIC POWER SYSTEMS

Tel: 615-834-0999 • Fax: 615-834-0129  
www.eps-international.com  
l.christodoulou@eps-international.com

#### PQGROUND TESTING, INC.

Tel: 603-888-6851 • Fax: 603-888-6852  
www.electricquality.com  
lightning44@comcast.net

#### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### TESTING SERVICES - OIL

#### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

#### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

**WEIDMANN-ACTI INC.  
(SACRAMENTO)**

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

**WEIDMANN-ACTI INC.  
(ST. JOHNSBURY)**

Tel: (802) 748-3936 • Fax: (802) 748-8630

**TESTING SERVICES - SALES &  
RENTAL OF TEST INSTRUMENTS**

**OX CREEK ENERGY**

Tel: (608) 589-5510 • (800) 531-6232  
Fax: (608) 589-5509  
www.ox-creek-energy.com • oxcreek@maqs.net

**THERMAL MANAGEMENT**



**FISO TECHNOLOGIES**

Tel: (418) 688-8065 • Fax: (418) 688-8067  
www.fiso.com • info@fiso.com

**FLIR SYSTEMS**

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

**THERMOCOUPLES**

**AMETEK INC.**

Tel: (610) 647-2121 • Fax: (610) 296-3412  
www.ametek.com



**NEOPTIX FIBER OPTIC SENSORS**

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

**THERMOGRAPHIC  
- EQUIPMENT SALES**

**FLIR SYSTEMS**

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

**MIKRON INFRARED INC.**

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com

**THERMOMETERS - DIGITAL**



**NEOPTIX FIBER OPTIC SENSORS**

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

**THERMOMETERS - INFRARED**

**FLIR SYSTEMS**

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

**THERMOSTATS - ELECTRONIC**

**COMVERGE, INC.**

Tel: (888) 565-5525 • Fax: (973) 884-3504  
www.comverge.com • sales@comverge.com

**TOOLS**

**KLEIN TOOLS**

Tel: (800) 553-4676 • Fax: (847) 745-4612  
www.kleintools.com  
marketing@kleintools.com

**RIDGE TOOL COMPANY**

Tel: (800) 769-7743 • Fax: (440) 329-4551  
www.rigid.com • info@rigid.com

**TOOLS - EQUIPMENT/RENTAL**

**FLIR SYSTEMS**

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

**TOWERS - EMERGENCY T & D**

**TOWER SOLUTIONS INC.**

Tel: 905-946-8789 • Fax: 905-913-9083  
www.implotech.ca • hsildva@implotech.ca

**TOWERS - POLES**



**FWT INC.**

Tel: (817) 255-2996 • Fax: (817) 255-2957  
www.fwtinc.com

**SABRE TUBULAR STRUCTURES**

Tel: (817) 294-7210 • (866) 254-3707  
Fax: (817) 294-8366  
www.sabrecom.com  
utilitiesales@sabrecom.com

**VERIFY YOUR TRANSFORMER  
CONDITION WITH FREQUENCY  
RESPONSE ANALYSIS**

**PHENIX  
TECHNOLOGIES**

ISO 9001  
CERTIFIED

*Phenix Technologies  
offers the Model FRA-100*

- PC Based analysis
- Fast—Test can be performed in approximately 30 minutes
- Detects changes in winding structure
- Does not require historical data for analysis
- Provide an Objective Winding Analysis on 3-phase transformers
- Measures in higher frequency ranges to increase sensitivity
- Lightweight and compact

**We also offer:**

- AC and DC Hipots
- Megohmmeters
- Insulation Analyzers
- Portable High Current Testers
- Circuit Breaker Test Systems
- Recloser Test Systems
- Motor and Transformer Test Systems

*And much more!*

**Contact  
Phenix  
Technologies  
with your  
testing  
requirements**

**High Voltage  
High Current  
High Power  
Test Systems  
and Components**

75 Speicher Drive • Accident, Maryland 21520 U.S.A.  
Phone (301) 746-8118 • Fax (301) 895-5570  
www.phenixtech.com info@phenixtech.com

## TOWERS - TELECOMMUNICATION

### ABB INC.

Tel: (905) 333-7551 • Fax: (905) 333-7565  
www.abb.ca



### FWT INC.

Tel: (817) 255-2996 • Fax: (817) 255-2957  
www.fwtinc.com

### SABRE TUBULAR STRUCTURES

Tel: (817) 294-7210 • (866) 254-3707  
Fax: (817) 294-8366  
www.sabrecom.com  
utilitysales@sabrecom.com

## TOWERS - WIRELESS



### FWT INC.

Tel: (817) 255-2996 • Fax: (817) 255-2957  
www.fwtinc.com

## TOWERS, TRANSMISSION - RETROFIT

### HUGHES BROTHERS INC.

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

## TOWERS, TRANSMISSION - STEEL

### DIS-TRAN PACKAGED SUBSTATIONS, LLC

Tel: (318) 448-0274 • Fax: (318) 445-7240  
www.distran.com



### FWT INC.

Tel: (817) 255-2996 • Fax: (817) 255-2957  
www.fwtinc.com



### LOCWELD INC.

Tel: (450) 659-9661 • Fax: (450) 444-3111  
www.locweld.com • info@locweld.com

## TOWERS, TRANSMISSION - WOOD, LAMINATED

### HUGHES BROTHERS INC.

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

## TOWERS, TRANSMISSION - WOOD, SOLID

### HUGHES BROTHERS INC.

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

## TRACKED VEHICLES

### INTERGRAPH CORP

Tel: (256) 730-8558 • Fax: (256) 730-8995  
www.intergraph.com • jpaddock@ingr.com

## TRACTION - PRODUCTS

### LOEGERING

Tel: 800-373-5441 • Fax: 701-347-4323  
www.loegering.com • beckyf@loegering.com

## TRAILERS - CABLE REEL

### NESCO INC.

Tel: (260) 824-6340 • 1-800-252-0043  
Fax: (260) 824-6350  
www.nescosales.com • nesco@nescosales.com

### WAGNER - SMITH CO. (THE)

Tel: (817) 447-8085 • Fax: (817) 447-8917  
www.wagnersmithequipment.com  
jwagner@wagnersmithequipment.com

## TRAILERS - POLE

### NESCO INC.

Tel: (260) 824-6340 • 1-800-252-0043  
Fax: (260) 824-6350  
www.nescosales.com • nesco@nescosales.com

## TRAINING

### ACADEMY OF INFRARED TRAINING

Tel: (604) 516-6646 • Fax: (604) 516-6674  
www.infraredtraining.net  
airt@infraredtraining.net

### FLIR SYSTEMS

Tel: (978) 901-8000 • (800) 464-6372  
Fax: (978) 901-8887  
www.flirthermography.com • moreinfo@flir.com

### LIGHT BRIGADE INC., THE

Tel: 206-575-0404 • Fax: 206-575-0405  
www.lightbrigade.com  
kimberly@lightbrigade.com

## TRANSDUCERS

### AMETEK INC.

Tel: (610) 647-2121 • Fax: (610) 296-3412  
www.ametek.com

### HITEC CORPORATION

Tel: 978-742-9032 • Fax: 978-742-9033  
www.hitecorp.com • sales@hitecorp.com

### OHIO SEMITRONICS INC.

Tel: (614) 777-1005 • 1-800-537-0277  
Fax: (614) 777-4511  
www.ohiosemi.com  
sales@ohiosemitronics.com

## TRANSDUCERS - ELECTRIC



### FLEX-CORE DIV.

Tel: (614) 889-6152 • Fax: (614) 876-8538  
www.flex-core.com • flexcore@msn.com

## TRANSFORMER - VACUUM DRY-OUT SYSTEMS

### BARON USA, INC.

Tel: 931 528 8476 • Fax: 931 526 2219  
www.baronusa.com • derek@baronusa.com

## TRANSFORMER COMPONENTS



### HIGH VOLTAGE SUPPLY

Tel: (214) 637-4434 • (800) 338-5526  
Fax: (214) 637-1157  
www.highvoltagesupply.com  
hvsinfo@waukesha.spx.com

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

**WEIDMANN-ACTI INC.  
(SACRAMENTO)**

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

**WEIDMANN-ACTI INC.  
(ST. JOHNSBURY)**

Tel: (802) 748-3936 • Fax: (802) 748-8630

**TRANSFORMER DIAGNOSIS**

**MEGGER**

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

**SIEMENS**

Global network of innovation

**SIEMENS POWER TRANSMISSION &  
DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

**WEIDMANN-ACTI INC.  
(BENSALEM)**

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

**WEIDMANN-ACTI INC.  
(BURLINGTON)**

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

**WEIDMANN-ACTI INC. (CALGARY)**

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

**WEIDMANN-ACTI INC. (HOUSTON)**

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

**WEIDMANN-ACTI INC.  
(INDIANAPOLIS)**

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

**WEIDMANN-ACTI INC.  
(PITTSBURGH)**

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

**WEIDMANN-ACTI INC.  
(SACRAMENTO)**

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

**WEIDMANN-ACTI INC.  
(ST. JOHNSBURY)**

Tel: (802) 748-3936 • Fax: (802) 748-8630

**TRANSFORMER DISPOSAL**



**GREEN-PORT ENVIRONMENTAL  
MANAGERS (ONTARIO)**

Tel: (905) 799-2777 • Fax: (905) 458-1702  
www.green-port.com • mitt@green-port.com

**TRANSFORMER MONITORING**



**FISO TECHNOLOGIES**

Tel: (418) 688-8065 • Fax: (418) 688-8067  
www.fiso.com • info@fiso.com

**INCON POWER RELIABILITY  
PRODUCTS**

Tel: (207) 283-0156 • 1-800-872-3455  
Fax: (207) 283-0158  
www.incon.com • twagner@incon.com

**KELMAN**

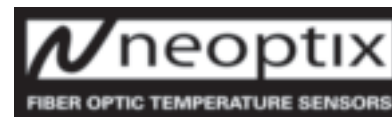
Tel: (773) 944-0693 • Fax: (773) 944-0690  
www.kelman.co.uk

**MEGGER**

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com

**MIKRON INFRARED INC.**

Tel: (906) 487-6060 • Fax: (906) 487-6066  
www.mikroninfrared.com  
sales@mikroninfrared.com



**NEOPTIX FIBER OPTIC SENSORS**

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

**PAUWELS CANADA INC.**

Tel: (204) 452-7446 • 1-800-665-9450  
Fax: (204) 284-2696  
www.pauwels.com • info@pauwels.com

**SIEMENS**

Global network of innovation

**SIEMENS POWER TRANSMISSION &  
DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

**WEIDMANN-ACTI INC.  
(BENSALEM)**

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

**Tettex**

**New Solutions for  
Substation Testing**

**TTR 2795**  
Fully Automated 3  
Phase Transformer  
Turns Ratio Meter

**MIDAS 2880**  
Mobile  
C Tan Delta  
Insulation  
Diagnosis &  
Analyzing  
System

**FRA 5310**  
Frequency  
Response  
Analyzer

Seeking Additional Representatives  
in North America

**HIPOTRONICS**  
THE MEASURE OF A LEADER

www.hipotronics.com 1 (800) 727-HIPO Sales@hipotronics.com

## PRODUCTS & SERVICES

### **WEIDMANN-ACTI INC. (BURLINGTON)**

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### **WEIDMANN-ACTI INC. (CALGARY)**

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### **WEIDMANN-ACTI INC. (HOUSTON)**

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### **WEIDMANN-ACTI INC. (INDIANAPOLIS)**

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### **WEIDMANN-ACTI INC. (PITTSBURGH)**

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### **WEIDMANN-ACTI INC. (SACRAMENTO)**

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### **WEIDMANN-ACTI INC. (ST. JOHNSBURY)**

Tel: (802) 748-3936 • Fax: (802) 748-8630

## TRANSFORMERS

### **CONDUMEX INCORPORATED**

Tel: 972-352-2300 • Fax: 972-352-2338  
www.condumex.com • sbauer@condumex.com

### **HAMMOND POWER SOLUTIONS INC.**

Tel: 519-822-2441 • Fax: 519-822-9701  
www.hammondpowersolutions.com  
pbromby@hammondpowersolutions.com

### **MOLONEY ELECTRIC INC.**

### **MOLONEY ELECTRIC, INC.**

Tel: (416) 534-9226 • Fax: (416) 534-6906  
www.moloney-electric.com  
sales@moloney-electric.com

### **PAUWELS CANADA INC.**

Tel: (204) 452-7446 • 1-800-665-9450  
Fax: (204) 284-2696  
www.pauwels.com • info@pauwels.com

## SIEMENS

Global network of innovation

### **SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com



### **T & R ELECTRIC SUPPLY COMPANY INC.**

Tel: (605) 534-3555 • 1-800-843-7994  
Fax: (605) 534-3861  
www.t-r.com • t-r@t-r.com

### **TRANSFLUID SERVICES, INC.**

Tel: 800-442-8077 • Fax: 612-605-8087  
www.transfluidservices.com  
john@transfluidservices.com



### **WAUKESHA ELECTRIC SYSTEMS**

Tel: 1-800-835-2732 • Fax: (262) 521-0196  
www.waukeshaelectric.com  
info@waukesha.spx.com

## TRANSFORMERS - AUTO TRANSFORMERS

### **PAUWELS TRANSFORMERS INC.**

Tel: (636) 239-9300 • Fax: (636) 239-9398  
www.pauwels.com

## SIEMENS

Global network of innovation

### **SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com



### **WAUKESHA ELECTRIC SYSTEMS**

Tel: 1-800-835-2732 • Fax: (262) 521-0196  
www.waukeshaelectric.com  
info@waukesha.spx.com

## TRANSFORMERS - AUXILIARY - DRY OR LIQUID FILLED TYPE

### **ITEC**

Tel: (704) 282-4331 • Fax: (704) 283-3017  
www.itec-ctvt.com • sales@itec-ctvt.com

## SIEMENS

Global network of innovation

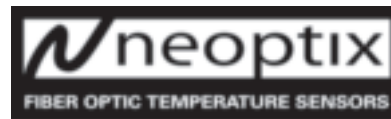
### **SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## TRANSFORMERS - CONTROLS

### **INDUCTIVE COMPONENTS MFG. INC.**

Tel: (513) 752-4731 • Fax: (513) 752-4738  
www.icmlinc.com



### **NEOPTIX FIBER OPTIC SENSORS**

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

### **PAUWELS CANADA INC.**

Tel: (204) 452-7446 • 1-800-665-9450  
Fax: (204) 284-2696  
www.pauwels.com • info@pauwels.com

## TRANSFORMERS - DISTRIBUTION

### **ERMCO**

Tel: 731-285-9121 • Fax: 731-287-4104  
www.ermco-eci.com  
bhadden@ermco-eci.com

### **ESE INC**

Tel: 270 843 1188 • Fax: 270 842 5378  
www.esebg.com • mike@esebg.com

### **MOLONEY ELECTRIC INC.**

### **MOLONEY ELECTRIC, INC.**

Tel: (416) 534-9226 • Fax: (416) 534-6906  
www.moloney-electric.com  
sales@moloney-electric.com

### **PAUWELS TRANSFORMERS INC.**

Tel: (636) 239-9300 • Fax: (636) 239-9398  
www.pauwels.com



### **T & R ELECTRIC SUPPLY COMPANY INC.**

Tel: (605) 534-3555 • 1-800-843-7994  
Fax: (605) 534-3861  
www.t-r.com • t-r@t-r.com

## TRANSFORMERS - DISTRIBUTION, PADMOUNTED

### **MOLONEY ELECTRIC INC.**

### **MOLONEY ELECTRIC, INC.**

Tel: (416) 534-9226 • Fax: (416) 534-6906  
www.moloney-electric.com  
sales@moloney-electric.com



**T & R ELECTRIC SUPPLY COMPANY INC.**

Tel: (605) 534-3555 • 1-800-843-7994  
Fax: (605) 534-3861  
www.t-r.com • t-r@t-r.com

**TRANSFORMERS - DISTRIBUTION, POLE-TYPE**

**AECI SPECIALTY TRANSFORMER**

Tel: 501.570.2388 • Fax: 501.570.2986  
www.aeci.com • tbaldwin@aeci.com



**MOLONEY ELECTRIC, INC.**

Tel: (416) 534-9226 • Fax: (416) 534-6906  
www.moloney-electric.com  
sales@moloney-electric.com



**T & R ELECTRIC SUPPLY COMPANY INC.**

Tel: (605) 534-3555 • 1-800-843-7994  
Fax: (605) 534-3861  
www.t-r.com • t-r@t-r.com

**TRANSFORMERS - DISTRIBUTION, SUBSTATION-TYPE**

**BELYEA COMPANY, INC.**

Tel: (610) 515-8775 • Fax: (610) 515-1263  
www.belyeapower.com  
sales@belyeapower.com



**MOLONEY ELECTRIC, INC.**

Tel: (416) 534-9226 • Fax: (416) 534-6906  
www.moloney-electric.com  
sales@moloney-electric.com



**T & R ELECTRIC SUPPLY COMPANY INC.**

Tel: (605) 534-3555 • 1-800-843-7994  
Fax: (605) 534-3861  
www.t-r.com • t-r@t-r.com

**TRANSFORMERS - DISTRIBUTION, SUBSURFACE**




**MOLONEY ELECTRIC, INC.**


Tel: (416) 534-9226 • Fax: (416) 534-6906  
www.moloney-electric.com  
sales@moloney-electric.com

# TRANSFORMERS

## DISTRIBUTION AND SUBSTATION




**CALL TOLL-FREE**  
800-843-7994  
FAX 605-534-3861  
E-Mail: t-r@t-r.com  
Internet: www.t-r.com



Modern Rewind Facilities  
More than 61 Acres Inventory  
Prompt Delivery—Coast to Coast

**Complete Outdoor Substations, Circuit Breakers, Regulators, and Switchgear**



**BUY - SELL - RENT**

**TRANSFORMERS  
- DRY OUT SYSTEMS**



**VELCON FILTERS, INC.**

Tel: (719) 531-5855 • 1-800-531-0180  
Fax: (719) 531-5690  
www.velcon.com • vfsales@velcon.com

**TRANSFORMERS - DRY TYPE**

**ARTECHE**

Tel: (52)7737332034 • Fax: (52)7737330366  
www.artech.com  
oramirez@artech.com.mx

**BELYEA COMPANY, INC.**

Tel: (610) 515-8775 • Fax: (610) 515-1263  
www.belyeapower.com  
sales@belyeapower.com

**MAGNETIC SPECIALTIES, INC.**

Tel: (215) 258-5730 • Fax: (215) 258-3353  
www.magspecinc.com • maa@solararmfg.com

**TRANSFORMERS - FIELD REPAIRS**

**SIEMENS**

Global network of innovation

**SIEMENS POWER TRANSMISSION &  
DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

**TRANSFORMERS - INSTRUMENT**

**FLEX-CORE**

**FLEX-CORE DIV.**

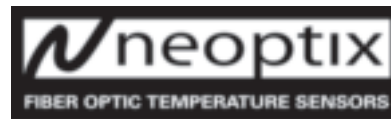
Tel: (614) 889-6152 • Fax: (614) 876-8538  
www.flex-core.com • flexcore@msn.com

**ITEC**

Tel: (704) 282-4331 • Fax: (704) 283-3017  
www.itec-ctvt.com • sales@itec-ctvt.com

**MAGNETIC SPECIALTIES, INC.**

Tel: (215) 258-5730 • Fax: (215) 258-3353  
www.magspecinc.com • maa@solararmfg.com



**NEOPTIX FIBER OPTIC SENSORS**

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com



**TRENCH LIMITED**

Tel: (416) 298-8108 • Fax: (416) 298-2209  
www.trenchgroup.com  
tonyj@ca.trenchgroup.com

**TRANSFORMERS - INSTRUMENT,  
CURRENT**

**FLEX-CORE**

**FLEX-CORE DIV.**

Tel: (614) 889-6152 • Fax: (614) 876-8538  
www.flex-core.com • flexcore@msn.com

**ITEC**

Tel: (704) 282-4331 • Fax: (704) 283-3017  
www.itec-ctvt.com • sales@itec-ctvt.com

**MAGNETIC SPECIALTIES, INC.**

Tel: (215) 258-5730 • Fax: (215) 258-3353  
www.magspecinc.com • maa@solararmfg.com

**OHIO SEMITRONICS INC.**

Tel: (614) 777-1005 • 1-800-537-0277  
Fax: (614) 777-4511  
www.ohiosemi.com  
sales@ohiosemicon.com

**T.I. CHEN ASSOCIATES LLC.**

Tel: 253.678.2661 • Fax: 206.350.6482  
www.tichenassociates.com/transformerproducts  
tim@tichenassociates.com



**TRENCH LIMITED**

Tel: (416) 298-8108 • Fax: (416) 298-2209  
www.trenchgroup.com  
tonyj@ca.trenchgroup.com

**TRANSFORMERS - LARGE POWER**

**PAUWELS CANADA INC.**

Tel: (204) 452-7446 • 1-800-665-9450  
Fax: (204) 284-2696  
www.pauwels.com • info@pauwels.com

**Wet Transformer?**  
Dry It On-Line



**Reduce Substation Maintenance Costs!**

Velcon's Transformer Dryout System is an on-line dryout process designed for safe, unattended, 24-hour operation.

- Transformer remains in-service during process.
- Reduce transformer dryout costs
- Improve oil dielectric values
- Improve transformer power factor
- Operates continuously unattended
- Extend oil service life
- Extend transformer service life



COLORADO SPRINGS, CO, USA  
Phone (719) 531-5855  
FAX (719) 531-5690  
VISIT OUR WEB SITE AT: www.velcon.com

## TRANSFORMERS - LARGE POWER, 10,001 KVA AND LARGER

### MAGNETIC SPECIALTIES, INC.

Tel: (215) 258-5730 • Fax: (215) 258-3353  
www.magspecinc.com • maa@solarfmfg.com

### PAUWELS CANADA INC.

Tel: (204) 452-7446 • 1-800-665-9450  
Fax: (204) 284-2696  
www.pauwels.com • info@pauwels.com



### WAUKESHA ELECTRIC SYSTEMS

Tel: 1-800-835-2732 • Fax: (262) 521-0196  
www.waukeshaelectric.com  
info@waukesha.spx.com

## TRANSFORMERS - LEAK SEALING SERVICES

### COLT ATLANTIC SERVICES

Tel: (770) 831-8135 • (800) 229-2658  
Fax: (770) 831-8631  
www.coltonline.com • sales@coltonline.com

## TRANSFORMERS - MAINTENANCE

### ANDAX ENVIRONMENTAL CORP.

Tel: 1-800-999-1358 • Fax: 1-888-443-4732  
www.andax.com  
customerservice@andax.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com



### VELCON FILTERS, INC.

Tel: (719) 531-5855 • 1-800-531-0180  
Fax: (719) 531-5690  
www.velcon.com • vfsales@velcon.com

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## TRANSFORMERS - MAINTENANCE/REPAIRS

### JORDAN TRANSFORMER

Tel: 952-492-2720 • Fax: 952-492-2796  
www.jordantransformer.com  
johnl@jordantransformer.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com



### WAUKESHA ELECTRIC SYSTEMS

Tel: 1-800-835-2732 • Fax: (262) 521-0196  
www.waukeshaelectric.com  
info@waukesha.spx.com

## TRANSFORMERS - MEDIUM & LARGE POWER

### BELYEA COMPANY, INC.

Tel: (610) 515-8775 • Fax: (610) 515-1263  
www.belyeapower.com  
sales@belyeapower.com

### PAUWELS CANADA INC.

Tel: (204) 452-7446 • 1-800-665-9450  
Fax: (204) 284-2696  
www.pauwels.com • info@pauwels.com

### PAUWELS TRANSFORMERS INC.

Tel: (636) 239-9300 • Fax: (636) 239-9398  
www.pauwels.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com



### T & R ELECTRIC SUPPLY COMPANY INC.

Tel: (605) 534-3555 • 1-800-843-7994  
Fax: (605) 534-3861  
www.t-r.com • t-r@t-r.com



### WAUKESHA ELECTRIC SYSTEMS

Tel: 1-800-835-2732 • Fax: (262) 521-0196  
www.waukeshaelectric.com  
info@waukesha.spx.com

## TRANSFORMERS - MOBILE

### PAUWELS CANADA INC.

Tel: (204) 452-7446 • 1-800-665-9450  
Fax: (204) 284-2696  
www.pauwels.com • info@pauwels.com



### T & R ELECTRIC SUPPLY COMPANY INC.

Tel: (605) 534-3555 • 1-800-843-7994  
Fax: (605) 534-3861  
www.t-r.com • t-r@t-r.com

## TRANSFORMERS - MONITORS



### FISO TECHNOLOGIES

Tel: (418) 688-8065 • Fax: (418) 688-8067  
www.fiso.com • info@fiso.com



## NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

## TRANSFORMERS - NETWORK

### RICHARDS MANUFACTURING CO. SALES INC.

Tel: (973) 371-1771 • Fax: (973) 371-9538  
www.richards-mfg.com  
richardsales@richards-mfg.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com

## TRANSFORMERS - NONFLAMMABLE LIQUID-FILLED



### MOLONEY ELECTRIC, INC.

Tel: (416) 534-9226 • Fax: (416) 534-6906  
www.moloney-electric.com  
sales@moloney-electric.com



### T & R ELECTRIC SUPPLY COMPANY INC.

Tel: (605) 534-3555 • 1-800-843-7994  
Fax: (605) 534-3861  
www.t-r.com • t-r@t-r.com

## TRANSFORMERS - POWER

### PAUWELS TRANSFORMERS INC.

Tel: (636) 239-9300 • Fax: (636) 239-9398  
www.pauwels.com

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com



### WAUKESHA ELECTRIC SYSTEMS

Tel: 1-800-835-2732 • Fax: (262) 521-0196  
www.waukeshaelectric.com  
info@waukesha.spx.com

## TRANSFORMERS - REBUILD



### T & R ELECTRIC SUPPLY COMPANY INC.

Tel: (605) 534-3555 • 1-800-843-7994  
Fax: (605) 534-3861  
www.t-r.com • t-r@t-r.com

## TRANSFORMERS - REBUILDING AND REPAIR SERVICES

## SIEMENS

Global network of innovation

### SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.

Tel: (919) 325-7000 • Fax: (919) 325-7057  
www.usa.siemens.com



### T & R ELECTRIC SUPPLY COMPANY INC.

Tel: (605) 534-3555 • 1-800-843-7994  
Fax: (605) 534-3861  
www.t-r.com • t-r@t-r.com

## TRANSFORMERS - RENTAL SERVICES



### T & R ELECTRIC SUPPLY COMPANY INC.

Tel: (605) 534-3555 • 1-800-843-7994  
Fax: (605) 534-3861  
www.t-r.com • t-r@t-r.com

## TRANSFORMERS - SMALL POWER



### T & R ELECTRIC SUPPLY COMPANY INC.

Tel: (605) 534-3555 • 1-800-843-7994  
Fax: (605) 534-3861  
www.t-r.com • t-r@t-r.com

## TRANSFORMERS - SMALL POWER, 10,000 KVA AND SMALLER



### T & R ELECTRIC SUPPLY COMPANY INC.

Tel: (605) 534-3555 • 1-800-843-7994  
Fax: (605) 534-3861  
www.t-r.com • t-r@t-r.com

## TRANSFORMERS - SPECIALTY

### AECI SPECIALTY TRANSFORMER

Tel: 501.570.2388 • Fax: 501.570.2986  
www.aeci.com • tbaldwin@aeci.com

## TRANSFORMERS - SPLITCORE



### FLEX-CORE DIV.

Tel: (614) 889-6152 • Fax: (614) 876-8538  
www.flex-core.com • flexcore@msn.com



### SCHWEITZER ENGINEERING LABORATORIES INC.

Tel: (509) 332-1890 • Fax: (509) 332-7990  
www.selinc.com • info@selinc.com

## TRANSFORMERS - TEST EQUIPMENT

### MEGGER

Tel: (214) 333-3201 • Fax: (214) 331-7379  
www.megger.com



## NEOPTIX FIBER OPTIC SENSORS

Tel: (418) 687-2500 • Fax: (418) 687-2425  
www.neoptix.com • info@neoptix.com

## TRANSFORMERS - USED, REBUILT



## T & R ELECTRIC SUPPLY COMPANY INC.

Tel: (605) 534-3555 • 1-800-843-7994  
Fax: (605) 534-3861  
www.t-r.com • t-r@t-r.com

## TRANSFORMERS - VOLTAGE

### ITEC

Tel: (704) 282-4331 • Fax: (704) 283-3017  
www.itec-ctvt.com • sales@itec-ctvt.com

## TRANSMISSION AND DISTRIBUTION LINE

### HAMBY YOUNG

Tel: (330) 562-8444 • (800) 726-8444  
Fax: (330) 562-4018  
www.hambyyoung.com  
rjhamby@hambyyoung.com



### ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

### MASTEC ENERGY SERVICES

Tel: (800) 280-6570 • Fax: (704) 599-9824  
www.mastec.com  
barry.batson@mastec.com

## TREE TRIMMING

### HUGHES BROTHERS INC.

Tel: (402) 643-2991 • Fax: (402) 643-2149  
www.hughesbros.com • tim@hughesbros.com

## TREE TRIMMING EQUIPMENT



### DAVEY TREE EXPERT COMPANY (THE) (KENT)

Tel: (330) 673-9511 • 1-800-447-1667  
Fax: (330) 673-0702  
www.davey.com  
steve.marshall@davey.com

### DAVEY TREE EXPERT COMPANY (THE) (LIVEMORE)

Tel: (925) 443-1723 • Fax: (925) 443-1751  
www.davey.com  
larry.abernathy@davey.com



### TEREX UTILITIES

Tel: (605) 882-5526 • Fax: (605) 882-5546  
www.terexutilities.com

## TRUCKS AND ACCESSORIES - MANUFACTURERS



### TEREX UTILITIES

Tel: (605) 882-5526 • Fax: (605) 882-5546  
www.terexutilities.com

## TRUCKS AND VAN INTERIOR EQUIPMENT

### KNAACK MANUFACTURING COMPANY

Tel: (815) 459-6093 • Fax: (800) 334-2981  
www.knaack.com • info@knaack.com

## TURBINES



### MAGELLAN AEROSPACE CORPORATION (FORMERLY ORENDA AEROSPACE)

Tel: (905) 673-3250 • Fax: (905) 678-1538  
www.magellanroi.com  
information@orenda.com ron tingle sales & business

## TURBINES - GAS - ENGINE - MANUFACTURER



### MAGELLAN AEROSPACE CORPORATION (FORMERLY ORENDA AEROSPACE)

Tel: (905) 673-3250 • Fax: (905) 678-1538  
www.magellanroi.com  
information@orenda.com ron tingle sales & business

## TURBINES - STEAM GENERATOR SETS

### BELYEA COMPANY, INC.

Tel: (610) 515-8775 • Fax: (610) 515-1263  
www.belyeapower.com  
sales@belyeapower.com

## TURBITY BARRIERS / SILT

### BROCKTON EQUIPMENT - SPILL-DAM INC.

Tel: (508) 583-7850 • Fax: (508) 583-5231  
www.spilldam.com

## TURBO GENERATORS

### BELYEA COMPANY, INC.

Tel: (610) 515-8775 • Fax: (610) 515-1263  
www.belyeapower.com  
sales@belyeapower.com

## UNIFORMS - FLAME RESISTANT, BREATHABLE



### CARHARTT, INC.

Tel: 1-800-217-2895  
Fax: (313) 271-6428  
www.carharttfr.com  
industrial\_sales@carhartt.com

### WESTEX INC.

Tel: (773) 523-7000 • Fax: (773) 523-0965  
www.westexinc.com  
menright@westexinc.com

## UNINTERRUPTIBLE POWER SUPPLIES

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## UPS SYSTEMS AND SUPPLIES

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

## UTILITY AUTOMATION

### HUNT TECHNOLOGIES INC.

Tel: (218) 562-4877 • 1-800-828-4055  
Fax: (218) 562-4878  
www.turtletech.com • sales@turtletech.com



### ITRON

Tel: 1-800-635-5461  
Fax: (509) 891-3932  
www.itron.com • tim.wolf@itron.com

### KEMA INC. (ENGLEWOOD)

Tel: (303) 708-9355 • Fax: (303) 708-9356  
www.kema.com  
info@kemaconsulting.com

### S&C ELECTRIC COMPANY

Tel: 773/338-1000 • Fax: 773/338-2562  
www.sandc.com • sstrand@sandc.com

### VIRELEC LTD.

Tel: (905) 569-8030 • Fax: (905) 569-6364  
www.virelec.com

## UV SYSTEMS - EQUIPMENT

### OFIL LTD

Tel: +972-8 9 407 953 • Fax: +972-8 9 407 873  
www.ofilsystems.com • ofil@ofilsystems.com

## VALVES - BUTTERFLY

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## VALVES - DRAIN

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## VALVES - GATE

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

## VALVES - GLOBE

### WEIDMANN-ACTI INC. (BENSALEM)

Tel: (215) 639-8599 • Fax: (215) 639-8577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (BURLINGTON)

Tel: (905) 632-8697 • Fax: (905) 632-8698  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (CALGARY)

Tel: (403) 203-0550 • Fax: (403) 203-0549  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (HOUSTON)

Tel: (713) 595-1030 • Fax: (713) 595-1034  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (INDIANAPOLIS)

Tel: (317) 888-7288 • Fax: (317) 888-2577  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (PITTSBURGH)

Tel: (412) 257-3778 • Fax: (412) 257-4014  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (SACRAMENTO)

Tel: (916) 455-2284 • Fax: (916) 455-0191  
www.weidmann-acti.com  
service@weidmann-acti.com

### WEIDMANN-ACTI INC. (ST. JOHNSBURY)

Tel: (802) 748-3936 • Fax: (802) 748-8630

**VALVES - PRESSURE RELIEF****WEIDMANN-ACTI INC. (BENSALEM)**

Tel: (215) 639-8599 • Fax: (215) 639-8577  
[www.weidmann-acti.com](http://www.weidmann-acti.com)  
[service@weidmann-acti.com](mailto:service@weidmann-acti.com)

**WEIDMANN-ACTI INC. (BURLINGTON)**

Tel: (905) 632-8697 • Fax: (905) 632-8698  
[www.weidmann-acti.com](http://www.weidmann-acti.com)  
[service@weidmann-acti.com](mailto:service@weidmann-acti.com)

**WEIDMANN-ACTI INC. (CALGARY)**

Tel: (403) 203-0550 • Fax: (403) 203-0549  
[www.weidmann-acti.com](http://www.weidmann-acti.com)  
[service@weidmann-acti.com](mailto:service@weidmann-acti.com)

**WEIDMANN-ACTI INC. (HOUSTON)**

Tel: (713) 595-1030 • Fax: (713) 595-1034  
[www.weidmann-acti.com](http://www.weidmann-acti.com)  
[service@weidmann-acti.com](mailto:service@weidmann-acti.com)

**WEIDMANN-ACTI INC. (INDIANAPOLIS)**

Tel: (317) 888-7288 • Fax: (317) 888-2577  
[www.weidmann-acti.com](http://www.weidmann-acti.com)  
[service@weidmann-acti.com](mailto:service@weidmann-acti.com)

**WEIDMANN-ACTI INC. (PITTSBURGH)**

Tel: (412) 257-3778 • Fax: (412) 257-4014  
[www.weidmann-acti.com](http://www.weidmann-acti.com)  
[service@weidmann-acti.com](mailto:service@weidmann-acti.com)

**WEIDMANN-ACTI INC. (SACRAMENTO)**

Tel: (916) 455-2284 • Fax: (916) 455-0191  
[www.weidmann-acti.com](http://www.weidmann-acti.com)  
[service@weidmann-acti.com](mailto:service@weidmann-acti.com)

**WEIDMANN-ACTI INC. (ST. JOHNSBURY)**

Tel: (802) 748-3936 • Fax: (802) 748-8630

**VALVES - SAMPLER****WEIDMANN-ACTI INC. (BENSALEM)**

Tel: (215) 639-8599 • Fax: (215) 639-8577  
[www.weidmann-acti.com](http://www.weidmann-acti.com)  
[service@weidmann-acti.com](mailto:service@weidmann-acti.com)

**WEIDMANN-ACTI INC. (BURLINGTON)**

Tel: (905) 632-8697 • Fax: (905) 632-8698  
[www.weidmann-acti.com](http://www.weidmann-acti.com)  
[service@weidmann-acti.com](mailto:service@weidmann-acti.com)

**WEIDMANN-ACTI INC. (CALGARY)**

Tel: (403) 203-0550 • Fax: (403) 203-0549  
[www.weidmann-acti.com](http://www.weidmann-acti.com)  
[service@weidmann-acti.com](mailto:service@weidmann-acti.com)

**WEIDMANN-ACTI INC. (HOUSTON)**

Tel: (713) 595-1030 • Fax: (713) 595-1034  
[www.weidmann-acti.com](http://www.weidmann-acti.com)  
[service@weidmann-acti.com](mailto:service@weidmann-acti.com)

**WEIDMANN-ACTI INC. (INDIANAPOLIS)**

Tel: (317) 888-7288 • Fax: (317) 888-2577  
[www.weidmann-acti.com](http://www.weidmann-acti.com)  
[service@weidmann-acti.com](mailto:service@weidmann-acti.com)

**WEIDMANN-ACTI INC. (PITTSBURGH)**

Tel: (412) 257-3778 • Fax: (412) 257-4014  
[www.weidmann-acti.com](http://www.weidmann-acti.com)  
[service@weidmann-acti.com](mailto:service@weidmann-acti.com)

**WEIDMANN-ACTI INC. (SACRAMENTO)**

Tel: (916) 455-2284 • Fax: (916) 455-0191  
[www.weidmann-acti.com](http://www.weidmann-acti.com)  
[service@weidmann-acti.com](mailto:service@weidmann-acti.com)

**WEIDMANN-ACTI INC. (ST. JOHNSBURY)**

Tel: (802) 748-3936 • Fax: (802) 748-8630

**VAR SYSTEMS - STATIC****SIEMENS**

Global network of innovation

**SIEMENS POWER TRANSMISSION & DISTRIBUTION, INC.**

Tel: (919) 325-7000 • Fax: (919) 325-7057  
[www.usa.siemens.com](http://www.usa.siemens.com)

**VEGETATION MANAGEMENT****AEROTEC, LLC**

Tel: (205) 428-6444 • Fax: (205) 428-2666  
[www.aerotecusa.com](http://www.aerotecusa.com)  
[jsimmons@aerotecusa.com](mailto:jsimmons@aerotecusa.com)

**ASPLUNDH BRUSH CONTROL CO.**

Tel: 1-800-248-8733 • Fax: 1-215-784-4405  
[www.asplundh.com](http://www.asplundh.com) • [info@asplundh.com](mailto:info@asplundh.com)

**ASPLUNDH TREE EXPERT CO.**

Tel: 1-800-248-8733 • Fax: 215-784-4405  
[www.asplundh.com](http://www.asplundh.com) • [info@asplundh.com](mailto:info@asplundh.com)

**DAVEY TREE EXPERT COMPANY (THE) (KENT)**

Tel: (330) 673-9511 • 1-800-447-1667  
 Fax: (330) 673-0702  
[www.davey.com](http://www.davey.com)  
[steve.marshall@davey.com](mailto:steve.marshall@davey.com)

**DAVEY TREE EXPERT COMPANY (THE) (LIVEMORE)**

Tel: (925) 443-1723 • Fax: (925) 443-1751  
[www.davey.com](http://www.davey.com)  
[larry.abernathy@davey.com](mailto:larry.abernathy@davey.com)

**EVEREST MANAGEMENT CONSULTANTS, INC.**

Tel: 215-534-8488  
[www.everestmci.com](http://www.everestmci.com)  
[rick.hollenbaugh@everestmci.com](mailto:rick.hollenbaugh@everestmci.com)

**W.I.R.E. SERVICES, A DIVISION OF MANITOBA HYDRO**

Tel: (204) 480-5800 • Fax: (204) 480-5107  
[www.wireservices.ca](http://www.wireservices.ca) • [info@wireservices.ca](mailto:info@wireservices.ca)

**VIBRATIONS - ANALYSTS****ZENSOL AUTOMATION INC.**

Tel: (514) 333-3488 • Fax: (514) 333-3499  
[www.zensol.com](http://www.zensol.com) • [zensol@zensol.com](mailto:zensol@zensol.com)

**VIBRATIONS MONITORING SYSTEMS****ZENSOL AUTOMATION INC.**

Tel: (514) 333-3488 • Fax: (514) 333-3499  
[www.zensol.com](http://www.zensol.com) • [zensol@zensol.com](mailto:zensol@zensol.com)

**VISUAL INSPECTION****AEROTEC, LLC**

Tel: (205) 428-6444 • Fax: (205) 428-2666  
[www.aerotecusa.com](http://www.aerotecusa.com)  
[jsimmons@aerotecusa.com](mailto:jsimmons@aerotecusa.com)

**VOLTMETERS - ALTERNATING CURRENT****MEGGER**

Tel: (214) 333-3201 • Fax: (214) 331-7379  
[www.megger.com](http://www.megger.com)

**VOLTMETERS - DIGITAL****MEGGER**

Tel: (214) 333-3201 • Fax: (214) 331-7379  
[www.megger.com](http://www.megger.com)

**VOLTMETERS - DIRECT CURRENT****MEGGER**

Tel: (214) 333-3201 • Fax: (214) 331-7379  
[www.megger.com](http://www.megger.com)

**VOLTMETERS - KILOVOLT****MEGGER**

Tel: (214) 333-3201 • Fax: (214) 331-7379  
[www.megger.com](http://www.megger.com)

**WASTE WATER TREATMENT****CULTEC, INC.**

Tel: (800) 4-CULTEC  
[www.cultec.com](http://www.cultec.com)  
[custservice@cultec.com](mailto:custservice@cultec.com)

**WASTE WATER TREATMENT, EQUIPMENT, SUPPLIERS AND MAINTENANCE****CONTROL MICROSYSTEMS**

Tel: (613) 591-1943 • Fax: (613) 591-1022  
[www.controlmicrosystems.com](http://www.controlmicrosystems.com)  
[sales@controlmicrosystems.com](mailto:sales@controlmicrosystems.com)

**WATER - PURIFICATION AND FILTRATION EQUIPMENT****CONTROL MICROSYSTEMS**

Tel: (613) 591-1943 • Fax: (613) 591-1022  
[www.controlmicrosystems.com](http://www.controlmicrosystems.com)  
[sales@controlmicrosystems.com](mailto:sales@controlmicrosystems.com)

**WATER TREATMENT -  
LIQUID/SOLID SEPARATION**



**VELCON FILTERS, INC.**

Tel: (719) 531-5855 • 1-800-531-0180  
Fax: (719) 531-5690  
www.velcon.com • vfsales@velcon.com

**WIRE - SEALS**

**BROOKS UTILITY PRODUCTS  
GROUP**

Tel: 888-687-3008

**BROOKS UTILITY PRODUCTS  
GROUP (BROOKS EKSTROM)**

Tel: 888-687-3008

**INNER-TITE CORP.**

Tel: (508) 829-6361 • Fax: (508) 829-4469  
www.inner-tite.com  
security@inner-tite.com

**WIRE, STEEL - COPPER - CLAD**

**COMMSCOPE BIMETALS**

Tel: (704) 883-8015 • (800) 982-1708  
Fax: (704) 832-7548  
www.commscope.com  
bimetals@commscope.com

**WIRE, STEEL STRAND  
- ALUMINUM - CLAD**

**UNITED STATES ALUMOWELD CO LLC**

Tel: 864-848-1901 • Fax: 864-848-1901  
www.alumoweld.com  
bbebout@alumoweld.com

**WIRE, STEEL STRAND - GALVA-  
NIZED**

**AMERICAN WIRE GROUP, INC.**

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thnman@aol.com

**WIRES AND CABLES - ELECTRICAL**

**AMERICAN WIRE GROUP, INC.**

Tel: (954) 455-3050 • (800) 342-7215  
Fax: (954) 455-9886  
www.buyawg.com • thnman@aol.com

**GENERAL CABLE COMPANY**

Tel: 416-791-2430 • Fax: 416-756-1713  
www.generalcable.com  
tsingh@generalcable.com

**WIRING DEVICES AND SYSTEMS**

**K & H INDUSTRIES INC.**

Tel: (716) 549-0135 • Fax: (716) 549-2725  
www.khindustries.com • khind@msn.com

**WOOD - POLE**

**MERICHEM COMPANY**

Tel: (713) 428-5280 • Fax: (713) 921-4604  
www.merichem.com

**WOOD PRESERVATIVES**

**COPPER CARE WOOD  
PRESERVATIVES, INC.**

Tel: 888-817-0131 • Fax: 719-685-3444  
www.coppercare.us • sales@coppercare.us

**WIRE  
SERVICES**

**Airborne LiDAR Data Solutions**

- Thermal Rating Analysis
- Vegetation Management
- Digital Imagery & Video
- Upgrade Engineering

**www.wireservices.ca**

**Manitoba Hydro** POWERED BY A TRADITION YOU CAN TRUST **LSI** LiDAR Services International Inc.

# CIGRÉ Canada Conference on Power Systems



**October 1- 4, 2006**

Montréal, Québec, Canada

The conference will focus on challenges and impacts of wind energy integration on existing power grids and will include paper sessions on topics of interest in the power system industry:

- Design, planning and operation of wind farms
- Renewable energy, energy efficiency and climate change
- Simulation and design tools
- New energy resource integration and impacts
- Technologies for the integration of new resources
- Power system operation and control
- Research and development – university and industry activities

Visit [www.cigre-canada.org/en/section\\_meetings.html](http://www.cigre-canada.org/en/section_meetings.html)  
for registration and information on the conference



*Hosted by*

**Hydro  
Québec**  
TransÉnergie

**cigré**canada  
comité national canadien  
canadian national committee

# Buy fewer, get more.



## Exactly what you need.



It's not only about putting your fruits in more than one basket - It's also choosing the right supplier! ABB's new family of HV relays and controllers IED 670 is packed with

functionality. Being IEC 61850 compliant, having an intuitive relay setting tool, a creative packaging concept and other unique features, it has the right ingredients for all your Protection and Control applications. You have the recipe, we provide the components you need. **Your peers will be delighted!**

visit [www.abb.com/substationautomation](http://www.abb.com/substationautomation)

Power and productivity  
for a better world™



# Product Showcases



**Richards  
Manufacturing  
Company**

Richards Manufacturing Company supplies a wide variety of products used in the distribution of electricity. Our products include 600 Amp Disconnectable Splices, 600 Amp Separable Elbows and Accessories, Secondary Network Protectors and Accessories, Overhead Distribution Connectors, Underground Distribution Connectors, Poleline Hardware and Custom-Fabricated Collector Busses.



#### For more information call

973-371-1771 or visit our website at  
[www.Richards-Mfg.com](http://www.Richards-Mfg.com)

Contacts: jeffb@richards-mfg.com  
doug@richards-mfg.com  
andreab@richards-mfg.com



NESCO Sales & Rentals has added to their line of Utility Equipment the EZ HAULER 3800 ranked "Best" in class, manufactured by S.D.P. This unique device is actually 5 different units in one compact machine. It can be used as a 44' working aerial device, a transport machine, a digger, a crane, and a pole setter. This machine can fit through areas as narrow as 36" wide, with its tracks fully retracted. The EZ Hauler 3800 has a massive 3,800lbs. lifting capacity utilizing its crane functionality. This unit has a wireless remote that can control almost anything on it.

For more info give us a call at

**1-800-252-0043**

or visit our web site at

**[www.nescosales.com](http://www.nescosales.com)**



**Electric  
Power  
Cable**



Claude Robert Jr  
[claudefjr@assemblageparo.com](mailto:claudefjr@assemblageparo.com)

Electrical flexible connectors  
Flexible BusBars connections  
Laminated shunts jumpers  
Round & Flat braid tin copper  
Tin & Silver plating process  
Parts for Iso Phase Bus Duct  
Ground strap cable

Tel: 1-800 375-3503

Fax: (819) 375-1331

**[www.assemblageparo.com](http://www.assemblageparo.com)**

Circle 169 on Reader Service Card

Circle 171 on Reader Service Card

**STORM WATER DRAINAGE**  
**100% OIL CONTAINMENT**

*Keep Drains, Oil Contained\**

- Great for poor drainage areas
- Easy Install •Easy change out

**PETRO-BARRIER** **PETRO-PLUG** **PETRO-PIPE**

See all our products on the web...

**[WWW.OILBARRIERS.COM](http://WWW.OILBARRIERS.COM)**

**SPU Solidification Products International, Inc.**  
P.O. Box 35, NORTHFORD, CT 06472  
1-800-758-3634 FAX (203)484-9492

**Academy of Infrared Training**  
[www.infraredtraining.net](http://www.infraredtraining.net)

**Level I Infrared Certification Training**  
July 24-28 Atlantic City, NJ  
August 21-25 Calgary AB  
September 11-15 Montreal, QC  
October 16-20 Orlando, FL  
November 6-10 Vancouver, BC  
December 4-8 Colorado Springs, CO

**Level II Infrared Certification Training**  
July 31-August 5 Atlantic City, NJ  
September 18-21 Montreal, QC  
October 23-26 Orlando, FL  
November 14-17 Vancouver, BC

**Level III Infrared Certification Training**  
December 11-14 Vancouver, BC

**Coming Soon:**  
Electrical and Building Courses  
**Custom In House Training**  
For 5 or more individuals, it may be more economical to have the training done in your own facility. Call For A Free Quote Today!

Contact our Training Coordinator for more information at  
**1-888-673-4743** or e-mail us at [art@infraredtraining.net](mailto:art@infraredtraining.net)

**ART**  
Academy of Infrared Training Inc.

Circle 173 on Reader Service Card



**BCL Glove, Ltd.**  
Industrial specialized gloves

**[www.bclglove.ca](http://www.bclglove.ca)**



Circle 174 on Reader Service Card

# Product Showcases

## Remote Capacitor Controller

Not just another pretty face...



Our CBC-7000 is also intelligent and communicates well.

Trip/Close using time, temperature, voltage, neutral current, or combinations in "stand-alone" mode or w/SelectComm™ modules for two-way centralized control.



800.827.7966

[www.cannontech.com](http://www.cannontech.com)

Circle 175 on Reader Service Card



## EXPERTS IN TRANSFORMER LEAK REPAIR

- |                       |                               |
|-----------------------|-------------------------------|
| Flapper Valve Packing | Two Year Guarantee            |
| Flapper Valve Flanges | No Draining Oil               |
| Tap Changers          | Sealant                       |
| Pumps                 | Compatibility Analysis        |
| Drain Plugs           | Dielectrically Tested Sealant |
| Cover Plugs           | Experienced Technicians       |
| Bushings              | Lump-Sum Quotes               |
| Weld Leaks            | Reduced Down Time             |

866-572-5325

OIL LEAK REPAIR SERVICES

[www.coltonline.com](http://www.coltonline.com)

Circle 176 on Reader Service Card



## REMOTE CONTROLLED SEARCHLIGHT

**Durable, Versatile, Powerful... Guaranteed!**

- Exclusive Cr5 Pentabeam™ II Technology
- Wireless Remote Controlled Operation
- 370° Rotation x 135° Tilt
- 500,000 Candle Power, 5.5 Amps
- UV Ray and Saltwater Resistant
- Integrated 12V DC High-Torque Motors
- Weatherproof for Land and Sea Applications
- Waterproof Remote Transmitters
- R.F. Programmable Super Heterodyne Receiver
- 5-Year Limited Warranty

**GOLIGHT**

Golight, Inc. | RT 3 Box 378 | Culbertson, NE 69024  
tel: 800.557.0098 | 308.278.3131 | fax: 308.278.2525  
email: [info@golight.com](mailto:info@golight.com) | website: [www.golight.com](http://www.golight.com)

Circle 177 on Reader Service Card

## Hardware for High Voltage Lines using Alcan Technology for more than 25 years



2640 Blvd. Jacques-Cartier East  
Longueuil, QC, J4N 1P8, Canada  
Tel: 450-679-7778  
Fax: 450-679-9432

Circle 178 on Reader Service Card

## A Personal Investment



Larry Kibble, Foreman, 33 years of service

For those who wear the Davey logo, customer satisfaction represents more than another paycheck. It's a personal investment, because many Davey employees are also company owners.

Employees have owned The Davey Tree Expert Company for more than 25 years and that's why every Davey employee takes great pride in the work that we do. It's the reason every Davey crew works so hard to meet all our customers' needs.



Corporate Office: 1500 N. Mantua St., Kent, OH 44240  
1-800-445-8733 • [www.davey.com](http://www.davey.com)

Circle 179 on Reader Service Card



## HD ELECTRIC COMPANY

- ▶ Electrical Test & Measurement
- ▶ Controls & System Measurement
- ▶ Utility Specialty Products
- ▶ Utility Lighting Products

**TEST, MEASUREMENT AND SAFETY SOLUTIONS**  
FOR ELECTRIC POWER

847.473.4980

[HDELECTRICCOMPANY.COM](http://HDELECTRICCOMPANY.COM)

Circle 180 on Reader Service Card

# Product Showcases

## Solid Brass Padlocks Assembled and Keyed to Your Specifications



**HERCULES INDUSTRIES, INC.**  
*Manufacturer of HercuLock Padlocks*  
P.O. Box 197 • Prospect, Ohio 43342

Phone: (740) 494-2628  
Toll Free: 1-800-345-2590  
Fax: (740) 494-2274  
[www.hercuLock.com](http://www.hercuLock.com)

Circle 181 on Reader Service Card

## Enhancing Substation Automation

### Breaker & LTC Monitors



- Reduce maintenance costs
- Monitor key equipment parameters
- Report to SCADA in real-time
- Alarm and control setpoints
- Predictive maintenance



**INCONI**  
INTELLIGENT CONTROLS

92 Industrial Park Road  
P.O. Box 638 Saco, ME 04072  
Tel: 207-283-0156 FAX 207-286-1459

**ISO 9001**  
REGISTERED  
TO SUBSTATION  
www.incon.com

Circle 182 on Reader Service Card

## InsulBoot

Don't Tape It,  
InsulBoot It!™

[www.insulboot.com](http://www.insulboot.com) / [www.WLOP.us](http://www.WLOP.us)

800-262-2111



- Free Design Service
- Thousands of Designs Available
- Inexpensive & Easy to Install
- High Dielectric Strength
- Any Shape, Any Size,  
& Any Quantity
- Wildlife Outage  
Protectors™



Circle 183 on Reader Service Card

## IMMEDIATE RESPONSE SPILL TECHNOLOGIES

11760 COMMONWEALTH DR.  
LOUISVILLE, KY 40299  
TOLL FREE (866) 242-4368

Manage and Prevent Hazardous  
Material Spills with Agent-X  
Hydrocarbon Flow Filters



All HFF filters are hydrophobic,  
allowing water to pass, while  
preventing hydrocarbons from  
migrating through the filter.

[www.ciagent.com](http://www.ciagent.com)

Circle 184 on Reader Service Card



### UVR-1 Setting a NEW USA Standard For Universal Voltage Regulator Controls!

G.E., Siemens, Cooper, Howard Industries.  
ANSI-IEEE - 37.90 Surge/RF 2002 std. and  
DNP-3.0 Communication CERTIFIED!  
Five Year Limited Warranty.

**UVR-1 - Advanced- Non Obsolete  
Control Technology!**

UVR-1 Retro-fits with a Rail & Harness, quick change-out KIT for all common brand Voltage Regulators, INTO their existing cabinets. The Scrolling Control, and Plastic Clad Operation and set-up Menu chart, provides users complete A-Z installation Parameters "at a Glance." ALSO, USC-1 Universal (Regulator) SIMPLE Control without communication, UVR-1 LTC- For all brands Load Tap Changer Transformers.

[www.ICMlinc.com](http://www.ICMlinc.com)

1200 Ferris Road • Amelia, OH USA  
513-752-4731

Circle 185 on Reader Service Card

## Safety first

K&H Hazardous  
Location Lighting

### Class I, Division 1

Designed to meet the  
demanding needs of utility  
service industries, K&H  
Hazardous Location Lights  
are available in 13- or 26-watt  
compact fluorescent models  
operating at 120- or 220 volt,  
50/60 Hz. For more  
information, call  
716-549-0135 or visit  
[www.khindustries.com](http://www.khindustries.com)



**KH**  
**K&H INDUSTRIES, INC.**  
The Permanent Name in  
Temporary Lighting & Power

Circle 186 on Reader Service Card

# Product Showcases

## K-Line Insulators

**Silicone Rubber Line Posts**  
**Rural Utilities Services Accepted !**

See RUS List of Materials Pub. 202-1, page ea (2)  
See all of K-Line Insulators at [www.k-line.net](http://www.k-line.net)

**Tie-Top Line Posts**



K-Line Cat. Nos.  
KL15STF, KL28STF, KL35STF,  
KL46STF

**Horizontal Line Posts**



K-Line Cat. No.  
KL46SHG

**Even Better!**

**K-Line Insulators Universal K-Clamp Line Post**



K-Line Cat. Nos. KL15SK,  
KL28SK, KL35SK, KL46SK



K-Line Cat. No.  
KL46SKG

- Available to replace all the Tie-Top Line Posts above.
- Can be installed in the Horizontal or Vertical Position.
- Conductor clamp range is 0.30" to 1.34" diameter.

K-Line Insulators Ltd.  
50 Passmore Ave.  
Toronto, Ontario M1V-4T1  
Phone: (416) 292 2008  
Fax: 292-2094

K-Line Insulators - USA  
200 Buell Road, C-11  
Rochester, NY 14624  
(585) 235-2870  
235-3292

Circle 188 on Reader Service Card

**The All NEW MCM Base™**

**Joint Distribution Pedestal (patented)**

IN THE BASE OF A LAMP POST :  
FULL POWER + TEL. + CABLE TV  
CONNECTIONS FOR 4 TO 8 HOMES.  
[www.mcmsystem.com](http://www.mcmsystem.com)

Circle 189 on Reader Service Card

**DayCor Corona Camera**

**your tool for efficient maintenance**

[www.ofilsystems.com](http://www.ofilsystems.com)

## Custom Metering Magnetics

Since 1956 Magnetic Specialties has been serving the needs of the T&D market. Call one of our Engineers to discuss your requirements.

- ◆ Bushing CT's
- ◆ Potential Transformers to 35kV
- ◆ Toroid Capabilities to 30" and 500 LBS
- ◆ Build to Print or Design to Specs
- ◆ OEM Retrofits



**Magnetic Specialties**  
Tel 215-258-5730  
Fax 215-258-3353  
[info@magspecinc.com](mailto:info@magspecinc.com)

[www.magspecinc.com](http://www.magspecinc.com)

Circle 191 on Reader Service Card



NESCO Sales & Rentals has added to their line of Utility Equipment the EZ HAULER 3800 ranked "Best" in class, manufactured by S.D.P. This unique device is actually 5 different units in one compact machine. It can be used as a 44' working aerial device, a transport machine, a digger, a crane, and a pole setter. This machine can fit through areas as narrow as 36" wide, with its tracks fully retracted. The EZ Hauler 3800 has a massive 3,800lbs. lifting capacity utilizing its crane functionality. This unit has a wireless remote that can control almost anything on it.

For more info give us a call at  
**1-800-252-0043**  
or visit our web site at  
[www.nescosales.com](http://www.nescosales.com)

Circle 192 on Reader Service Card

## MultiCAM



MultiCAM, the worlds only LongWave Infrared+Daylight Corona+Visible camera, will ship in October, 2006 from CSIR in Pretoria, South Africa.

The MultiCAM has had models operating for about two years proving the feasibility, developing technology and getting operational feedback.

For more information:  
North American Distributor:  
Dan Ninedorf  
Ox Creek Energy Assoc Inc.  
Tel: 800-531-6232

All other Countries Contact:  
Alastair Chaffey, CSIR  
[ajchaffey@csir.co.za](mailto:ajchaffey@csir.co.za)  
[www.corocam.com](http://www.corocam.com)

# Product Showcases

## WORLD'S BEST!



POWERLINE  
MARKERS



BIRD DIVERTERS  
AND SIGNS

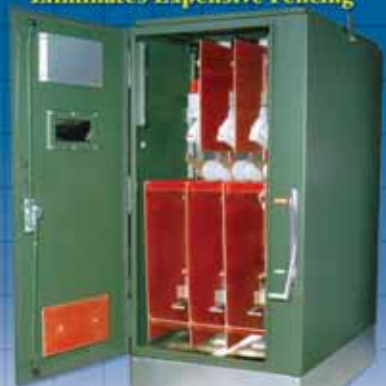


**PR TECHNOLOGIES**  
P.O. Box 554 Portland, Oregon 97207  
(Voice) 503-292-8682 (Fax) 503-292-8697  
Call Us Toll-Free At 1-800-722-8078  
On The Web At WWW.PR-TECH.COM

Circle 193 on Reader Service Card

## PARK MEDIUM VOLTAGE SWITCHGEAR

Factory Adjusted Interrupter Switches  
with Built-In Access Control that  
Eliminates Expensive Fencing



Shown here is model PM 123, pad-mounted 15KV Primary Switch and Metering Cubical. Significant features, among many others, include: standard drilling & tapping for mounting various size manufacturer's current and potential transformers, ventilation louvers & space heaters to reduce moisture; no taping of bus connectors, sturdy lockable latches and heavy duty hinges. For more information visit our Website at [www.ParkDetroit.com](http://www.ParkDetroit.com) or call toll-free 1-800-796-PARK



Circle 196 on Reader Service Card

## "CC-01" Condensed Catalog



Penn Separator Corp. a certified ASME Code welding shop has been manufacturing boiler auxiliaries and pressure vessels since 1956.

Penn is a leading supplier of Blowdown and Flash Separators.

Other items include Blowoff Tanks, Exhaust

Heads and Silencers, Entrainment Separators, and Continuous Blowdown Heat Recovery Systems.

Call 1-888-PENNSEP (736-6737) for a sales representative nearest you or see our online catalog at [www.pennseparator.com](http://www.pennseparator.com)



Circle 194 on Reader Service Card



**Regency**  
Technologies, Inc.

## LMR Radio Switch

Regency provides VHF & UHF radio switches for direct load control of air conditioners, water heaters and heat strips using various protocols.



Contact us at (800) 376-7356  
Website: [www.regencytec.com](http://www.regencytec.com)

Circle 195 on Reader Service Card



## PHOENIX MANUFACTURING LTD.

### Insulating Boots for Outdoor Applications

Manufacturers a comprehensive range of customized reusable, flexible, form fitting insulating boots engineered for your applications.

Recommended for use up to 38kv for protecting transformer insulator and bushing caps, expansion joints, busbars, outdoor circuit breaker, capacitor and distribution equipment terminals against animal related outages.

UV stabilized to give long service life



**PHOENIX**  
Manufacturing Ltd<sup>141</sup>

Fulton St • Milton, Ontario • L9T 2J8

**905-878-2818 • 905-878-0051**  
[www.phnxmfg.com](http://www.phnxmfg.com) • [sales@phnxmfg.com](mailto:sales@phnxmfg.com)

Circle 197 on Reader Service Card

## THERE'S NOTHING LIKE LIVING ON THE EDGE



### RFL 3000 ES42H Hardened Edge Switch

The new RFL ES42H lives on the edge of IP networks. This compact switch packs a big punch, delivering up to six 10/100 Mb electrical or optical ports. Contact RFL for more information and find out why it's so exciting to live on the edge.



RFL Electronics Inc.  
[www.rflect.com](http://www.rflect.com) [sales@rflect.com](mailto:sales@rflect.com)  
P: 973.334.3100 F: 973.334.3863

Circle 198 on Reader Service Card

# Advertisers Index

RSC #	Company	Web Site	Page #
102	8th International Summit & Expo Power	www.indiapowersnow.com	45
103	ABB Inc.	www.abb.ca	138
104	AECI Specialty Transformer	www.aeci.com	77
105	Aerotec LLC	www.aerotecusa.com	10
106	Altec Industries Inc.	www.altec.com	27
107	American Wire Group Inc.	www.buyawg.com	40
108	Barco Usual Solutions, LLC	www.barco.com	117
109	Beckwith Electric Company	www.beckwithelectric.com	34
100	Belyea Company Inc.	www.belyeapower.com	104
111	Brooks Utility Products Group	www.brooksutility.com	11
112	Bulwark Protective Apparel, A Division of VF Imagewear Inc	www.bulwark.com	3
113	Cannon Technologies	www.cannontech.com	9
114	Cigré Canada Conference on Power Systems	www.cigre-canada.org	137
115	Commscope Bimetals	www.commscope.com	7
116	Comverge, Inc.	www.comverge.com	1
117	Control Microsystems	www.controlmicrosystems.com	78
118	Data Comm For Business Inc	www.dcbnet.com	31
119	Dis-Tran Packaged Substations, LLC	www.distran.com	118
120	Elster Electricity, LLC	www.elsterelectricity.com	21-23-25
121	Filnor Inc.	www.filnor.com	111
122	Flir Systems	www.flirthermography.com	Front Cover
123	Flir Systems	www.flirthermography.com	18-19
124	Garrettcom Inc.	www.GarrettCom.com	12
125	Hamby Young	www.hambyyoung.com	119
126	Hastings Fiberglass Products Inc.	www.hfpg.com	37-39-41
127	High Voltage Inc.	www.hvinc.com	36
128	Hipotronics Inc.	www.hipotronics.com	127
129	Hughes Brothers Inc.	www.hughesbros.com	46
130	Hunt Technologies Inc.	www.turtletech.com	Inside Back Cover
131	Indeck Power Equipment Company	www.indeck.com	24-68
132	Inner-Tite Corp.	www.inner-tite.com	32
133	Itron	www.itron.com	Inside Front Cover
134	Kelman	www.kelman.co.uk	5
135	Maysteel LLC	www.maysteel.com	123
136	Megger	www.megger.com	29
137	Microwave Data Systems, Inc.	www.microwavedata.com	60
138	Mikron Infrared Inc.	www.mikroninfrared.com	33
139	Milsoft Integrated Solutions Inc	www.milsoft.com	44
140	Neoptix Fiber Optic Sensors	www.neoptix.com	70
141	Open Systems International Inc.	www.osii.com	15
142	Pauwels Canada Inc.	www.pauwels.com	120
143	Phenix Technologies Inc.	www.phenixtech.com	125
144	Positronic Industries Inc.	www.connectpositronic.com	38
145	Ranpro, Inc.	www.ranpro.com	39
146	RTDS Technologies Inc.	www.rtds.com	122
147	Rugged Com Inc.	www.ruggedcom.com	13
148	S&C Electric Company	www.sandc.ocm	62
149	Sabre Tubular Structures	www.sabrecom.com	43
101	Satec	www.oksatec.com	Outside Back Cover
150	Schweitzer Engineering Laboratories Inc.	www.selinc.com	109
151	T&R Electric Supply Company Inc	www.t-r.com	129
152	The Von Corporation	www.voncorp.com	8
153	Trench Limited	www.trenchgroup.com	106
154	Underground Devices Inc.	www.Udevices.com	107
155	Velcon filters Inc	www.velcon.com	130
156	Virelec Ltd.	www.virelec.com	17
157	Weidmann-Acti Inc.	www.weidmann-acti.com	103
158	Westex Inc.	www.westexinc.com	35
159	Winola Industrial Inc.	www.winolaindustrial.com	92
160	WIRE Services, a division of Manitoba Hydro	www.wireservices.ca	136

100% AMI coverage...

100% AMI functionality...

Guaranteed utility satisfaction.



One-way | Two-way | PLC | RF | Rural | Suburban | Urban | Electric | Water | Gas | RECs | IOUs | Municipalities

The industry's only  
complete portfolio of  
powerful, cost-efficient  
and scaleable AMR and  
AMI technologies.

At Hunt Technologies, we understand that every utility has different AMI needs, and that, unlike others, a one-size solution does not fit all. For the past 20 years, we have dedicated ourselves to the development of the industry's only complete portfolio of powerful, cost-efficient and scaleable technologies that deliver the critical and timely information utilities consistently need to satisfy their many constituencies, no matter what the topology. With this unique breadth of experience and ability — and the industry's most powerful and interoperable software engine ever created — it's only natural that smart utilities, meter manufacturers and software developers rely on Hunt Technologies to offer them *endless possibilities*.

**Hunt**  
Technologies

*The Possibilities Are Endless™*

Need proof? No problem.

Just call 1-800-828-4055

or website at [www.hunttechnologies.com](http://www.hunttechnologies.com)

Visit Us at  
Booth #301  
at NATD

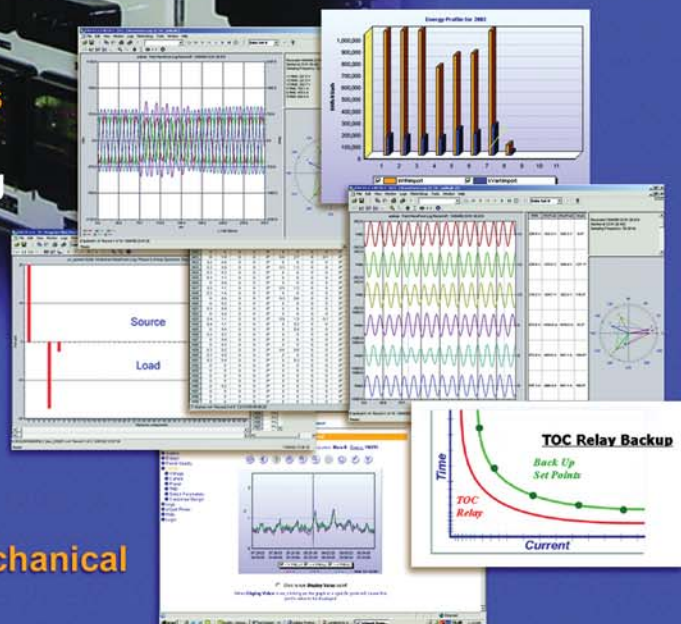
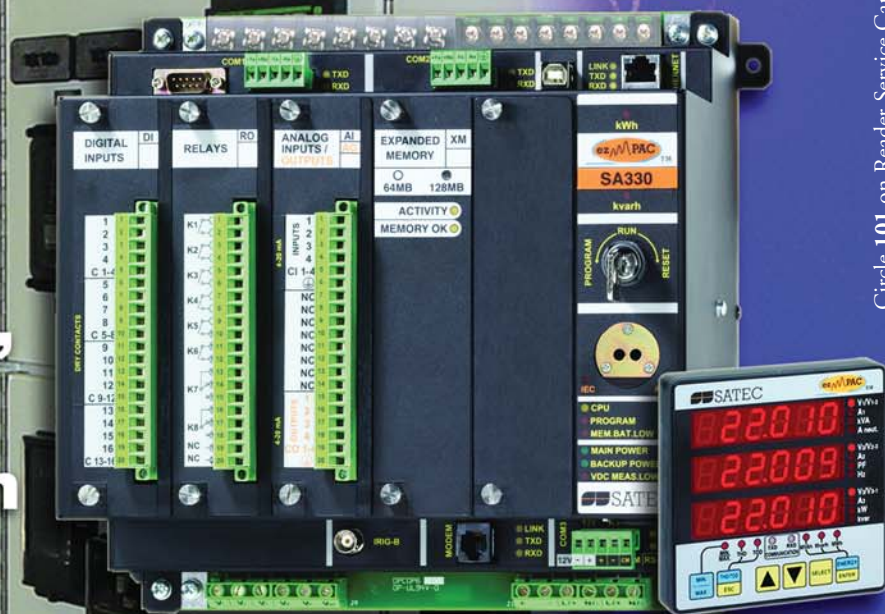
Automation Made Easy with...

# ezPAC™

## Power Intelligence Unit™

**Automate by  
Adding to  
Existing Relays,  
Instead of  
Replacing Them**

- **ONE ezPAC™ on each Feeder Circuit provides ALL the information needed for Automation:**
  - Accurate Measurements / Revenue Metering
  - Fault Analysis and Recording - Sequence of Events
  - Power Quality - Harmonics
  - Smart I/O
  - SCADA / e-mail / Web Access
- **Installation at a Fraction of the Money & Time**
- **Minimum Disruption of Operation - Low Investment Costs**
- **Enhancement / BackUp of Existing Electromechanical or New Relays**



 **SATEC**  
*Powerful Solutions*

SATEC Inc. 10 Milltown Court, Union, NJ 07083

Tel: (908) 686-9510 Fax: (908) 686-9520 E-mail: [sales@oksatec.com](mailto:sales@oksatec.com) [www.oksatec.com](http://www.oksatec.com)