Taking an Independent Path: Strategies for Low Risk Sourcing of Components in a Constrained Market

March 2019

Cite.

184

1.1

14

15



1x4, 2x2 and **?**¥4 Color Flat 化田 Ū. н I I Panel l Beam R High Genter Beakets 145014 Liphis • Ca TER TE Troffers 🖷 iR 1 Round **Hat Pane**  $\mathbb{R}$ Lights 111 nal Corn Cal TIS SIDIMERS - Drivers iectors • Occupancy Receptacies Scesors 👻 <u>Bacome mora</u> profitable!

#### Want To Be More Profitable?

#### Boost Your Margins Today

Why pay too much and waste time buying LED lighting local? Get the lowest prices on popular indisor and outdoor LLD lighting and installation accessories.

Plus 1.1011. Shipping on \$3000 onders to 48 states?

## GET THE COMPETITIVE ADVANTAGEI

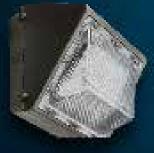
### Low Wholesale Prices on Modern Indoor & Outdoor LED Lighting!

Contractor Lighting & Supply boosts your profits with low wholesale prices on the lighting you use! Our Ohio warchouses are full of LED inventory ready to ship! We stock LED lights great for rebate programs.

> Millions in Retrofit & New Build Inventory Quick Shipping From the Mid-West Free Shipping on \$300+ Orders to 48 States Millions in Retrofit & New Build Inventory Full-time Dedicated Reps Premium Listed Products

Call Today to Save Money! 833.446.7100 CONTRACTORLIGHTING.COM



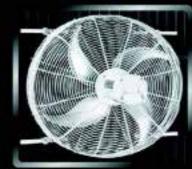




#### Contents • March 2019

PG 4	Taking an Independent Path: Strategies for Low Risk Sourcing of Components in a Constrained Market	
PG 12	BURNDY <sup>®</sup> Announces the Release of the New WILEY ACC-FPV90 Wire Management Clip	
PG 14	CIT Relay & Switch Snap-Action Switches in Two Sizes	
PG 16	Platinum Tools® Announces New Unloaded Patch Panels at the 2019 NAB & ISC West Shows; Now Available	
PG 20	Platinum Tools® Launches MapMaster™ mini RJ45 Pocket Cable Tester at 2019 NAB & ISC West Shows	
PG 24	Ad Index	





- expert technical assistance
   large inventory
- Iow sound levels
- energy-efficient motors
- pne-piece cast aluminum blades

transformer

transformer capacity up to 166%!

Increase

life!

· galvanized or stainless steel guards



#### Vol. 19 Issue 3

PUBLISHER Bart Beason 205-624-2180 bart@telmag.world

EDITOR Brandon Greenhill brandon@handfmedia.net

ADMINISTRATIVE DIRECTOR Steven Hobson steven@handfmedia.net

**CREATIVE/ WEB DIRECTOR** Jacklyn Greenhill jacklyn@handfmedia.net



Executive and Advertising Offices PO Box 1568 Pelham, AL 35124 phone: 205-441-5591 fax: 205-624-2185 www.theelectriccurrent.com

The Electric Current<sup>™</sup> is published eight times a year on a monthly basis by CJS Media, 1240 1st Street N, Suite 201, Alabaster, AL 35007 USA. The Electric Current<sup>™</sup> is distributed free to qualified subscribers. Non-qualified subscription rates are \$57.00 per year in the U.S. and Canada and \$84.00 per year for foreign subscribers (surface mail). U.S. Postage paid at Birmingham, Alabama and additional mailing offices.

The Electric Current<sup>™</sup> is distributed to to qualified owners and managers in the electrical industry. Publisher is not liable for all content (including editorial and illustrations provided by advertisers) of advertisements published and does not accept responsibility for any claims made against the publisher. It is the advertiser's or agency's responsibility to obtain appropriate releases on any item or individuals pictured in an advertisement. Reproduction of this magazine in whole or in part is prohibited without prior written permission from the publisher.

POSTMASTER: Send address changes to CJS Media, P.O. Box 1568 Pelham, AL 35124 PRINTED IN THE USA



## See our newly expanded Luminaires Portfolio!

SYLVANIA LED Luminaires and retrofit kits are the ideal solution to fit your everyday application needs. Experience for yourself the cutting-edge, easy-to-install, energy efficient products with the features, functions and accessories you demand. And now you have more to choose from than ever before.

Visit www.sylvania.com/luminaires



### **Taking an Independent Path:** Strategies for Low Risk Sourcing of Components in a Constrained Market

LED lighting industry looks to independent distributors to address chronic shortages in the availability of electronic components

Direct sourcing of electronic components for the LED lighting industry used to be pretty simple. An OEM would order direct from the manufacturer or through authorized distributors to obtain any required components. There was usually no need to look any further.

Today, the challenges of a highly stressed supply chain are forcing many LED OEMs to rethink the way they source components. With parts such as multi-layer ceramic capacitors (MLCCs) and other low-cost components in chronic shortage with extended lead times for delivery, manufacturers must be able to get these parts on-time at the lowest possible cost without assuming additional risk.

As a result, many are turning to independent or hybrid distributors for long lead-time parts. The primary caveat: the components must meet the specifications thereby avoiding compromising the integrity of the end product. In other words, LED lighting manufacturers want components that can be traced back to the original manufacturer.

For many companies, sourcing parts from the independent channel requires a significant shift in mindset. It also requires a comprehensive strategy for identifying and working with reliable independent stocking distributors to ensure they get components they need, when they need them.

"For LED manufacturers there has been harmony in the supply chain for most of the past decade, so the need to identify alternative suppliers has not been as pressing as it is now," says Mike Thomas, vice president and global general manager at Classic Components, an independent distributor based in Torrance, CA. "That means many companies have not invested a lot of time or attention strategizing about how to use independent distribution channels effectively.

The process begins, he says, with understanding how to distinguish one independent distributor from another. This often comes down to a mix-ture of experience, reputation and the extent of the supplier's global sup-





ply network. Therefore, it is critical to understand the quality management systems of your independent partners.

#### Know Your Source

According to Thomas, the mantra in his industry to eliminate risk is "know your source." To accomplish this, leading independent distributors invest millions to manage global supply networks, rate/prioritize suppliers, establish preferred supplier relationships and acquire the latest inspection equipment and utilize effective Quality Management Systems (QMS).

"Over time, companies like ours have developed a very complex method of identifying and eliminating risk," says Thomas. "That includes knowing

## **Material Handling Equipment**

#### Your One Source For All Your Material Handling Needs

- Storage Products (Steel Cabinets, Shelving & Lockers)
- Loading Dock Equipment
- Conveyors
- Pallet Racks
- Mezzanines
- Carts & Trucks
- Containers & Bins
- Safety Equipment
   Drum Handling
- Drum Handling
   Equipment
- Hoppers
- Wire Partitions
- Lift Tables
- In-Plant Buildings
- Cranes (Jlb & Bridge)

SINCE 1958

Hoists & Trolleys



## WAREHOUSE EQUIPMENT AND SUPPLY CO.®

116 West Park Drive • P.O. Box 19808 Brimingham, AL 35219 Email: sales@warehouseequipment.com Web: www.warehouseequipment.com how to inspect and test components that come in to our facility, but also goes well beyond that."

It also means analyzing and inspecting sources with an investigative diligence. What path did the parts take to get there? Who is the manufacturer and how is that relevant? Where was it made? How was it shipped and packaged? Is demand of a component strong enough to make its availability viable? Only thorough examination and assessment of all these factors, in conjunction with traceability, can the risk be truly mitigated.

"When we purchase components like MLCCs, for example, we are purchasing from a direct source," explains Thomas. "That could be a regional or foreign distributor, an OEM partner or direct from the factory."

To verify the chain of custody, traceability documentation can be provided that identifies the name and location of all the supply chain intermediaries from the part manufacturer to the direct source of the product. If this traceability is unavailable, a risk mitigation plan is required. Finally, visual inspection, testing and physical analysis are performed on all incoming products.

#### Purchasing Power

The truth is that many of the shortages were predicted some time ago. As a result, leading independent stocking distributors like Classic Components have spent the past few years engaged in a long-term strategy of identifying, and investing in, directly sourced critical electronic components.



### **Install Peace of Mind!**

#### First there was 4 square... and now the **REVOLUTIONARY** 5 Square<sup>®</sup> Box!!

You've struggled with 4 Square boxes for years - you know how small, cramped and time consuming they are. Finally, there is a solution that allows you the space you have always needed.

The **5 Square**<sup>®</sup> Boxes (5" x 5" x 2-7/8") provide up to 88 in<sup>3</sup> of interior volume which more than doubles that of most existing boxes on the market.

Create a robust and unrivaled infrastructure for the life of your facility with the 5 Square\* Products!





By doing this, independent distributors protect the supply, but are also able to lock in lower prices by making purchases before the inevitable changes driven by reduced supply and increased demand.

To protect high-volume orders, a distributor can lock in prices and delivery dates for many months at a time. This ensures that the inventory will be there when the customer needs it and not sold to someone else.

In some cases, they can even make speculative purchases for a customer and/or provide financing to purchase inventory when a qualified client has capital constraints.

#### **Global Networks**

Another direct source for high demand parts comes from tapping into a large global network. Because of the worldwide demand for components, independent distributors have expanded globally and placed sourcing experts in key supply markets.

For example, in addition to its 60,000 square foot facility in Torrance, California, Classic Components has established 12 regional offices in strategic locations throughout the world to support its global distribution business. The company boasts nearly 200 employees, who specialize in various aspects of the business, including supply chain, quality, technology and logistics.

The buyers can develop an intimate knowledge of regional supply chains with the expertise to find and manage quality component suppliers. These experts then leverage these relationships to bring the best price and delivery to their customers.

"By using regional quality centers and logistic hubs, we have the flexibility to purchase components from any country, in any currency, and then ship them to anywhere they are needed," explains Thomas.

He gives the example of a customer in Mexico that wants components from Taiwan, due to availability. If the Taiwanese supplier will only sell to local companies, Classic Components can purchase the components from its satellite office located there. Later the stock can be transferred or sold to another branch office before it is ultimately delivered to the customer in Mexico.

Classic's global logistics can also help to manage or avoid tariffs by shipping to and from our international hubs in Hong Kong and the UK.

#### **Rigorous Vetting**

Another way to ensure the reliability of the independent distributor is to ensure they are thoroughly vetted. Established companies are used to

## We've Got You Covered

SAVE Time & Money with Kwikon ENT & Fittings compared to traditional EMT

Kwikon Electrical Nonmetallic Tubing (ENT), fittings, slab boxes and accessories are designed to work together and provide the most robust concrete-tight ENT system on the market.





#### **KWIKON ENT**

i I I I

- Color-coded stripes for easy cable identification
- Available in coils, 10' sticks, and reels
- Lightweight and flexible for easy install that reduces labor by up to 50%.



- Six locking table for unbreakable connections
- Concrete-tight, requiring na salvent welding or tape
- Fire, pull and impact resistant.

#### KWIKON SLAB BOXES

- Boxes are installation ready and concrete-tight.
- Approved for support of ceiling fans up to 35 lbs and luminaries up to 50 lbs
- Clear Vue removable cover for marking visibility and prevents slurry or stucco from entering the box



#### KWIKON FORM STUBBIES

- Eliminate the need to drill to the deck
- Available in the original stubby design, the angled version and the Multi-Link
- Protects the ENT from potential damage during the removal of wood forms



Tal Res 1-800-463-9572 • www.ipema.com



complying with frequent requests for audits. In fact, some of the robustness of the quality systems implemented by independent distributors can be attributed to this activity.

#### **Continuing Shortages**

With significant shortages in many high usage electronic products needed in the LED lighting industry expected to continue for at least the next 2-3 years, the independent distributors' seat at the electronic components sourcing table has never been more relevant.

Through investment in developing deep global networks, inspection, authentication, inspection and quality systems, independent stocking distributors stand ready to provide LED lighting OEMs a robust option to navigate the white waters of international supply nimbly, effectively, and without the risk.

For more information, contact Classic Components Corp. 23605 Telo Avenue, Torrance, CA 90505; www. classic-ic.com; 310.539.5500; info@class-ic.com.

www.classic-ic.com •





## OUALITY PRICE THE PERFECT BALANCE

Hundreds of Suspension Options

GRIP

LOCK

YSTEMS

## Portable Fuse Cutter

Cut & Fuse Aircraft Cable Instantly Portable - Affordable - Easy Field Use

## www.griplocksystems.com 866-523-4490

## BURNDY<sup>®</sup> Announces the Release of the



## New WILEY ACC-FPV90 Wire Management Clip

BURNDY<sup>\*</sup>, a leading manufacturer and provider of wire management solutions to the Solar PV industry, announces the addition of the new ACC-FPV90 wire management clip to the WILEY line.

The ACC-FPV90 wire management clip is made of corrosion resistant 304 stainless steel, which makes it a durable, long lasting and reliable solution for all environments. The ACC-FPV90 is easy to install and slides 90 degrees on to module frames of various thicknesses. The ACC-FPV90 accommodates 1 to 2 PV cables up to 8.0mm in diameter. The rolled edges are designed to help protect cable insulation from damage. ACC-FPV90 clips are the perfect solution for keeping the PV installation neat, clean and free from ground faults.

- Innovative design that allows for quick and easy installations
- High quality, long-lasting, labor saving wire management solution
- Corrosion resistant 304 stainless steel provides outstanding durability and performance in all environments
- Snake tongue tabs securely anchor clips to module frames or purlins
- Compatible on modules/purlins with a flange thickness range of 1.0mm to 3.0mm
- Wire Diameter Range: 5.0mm to 8.0mm per each wire

- Installs in a 90 degree orientation
- Considerate lead in for installation without tools
- Accommodates all types of PV cable
- Rolled edges protect cable insulation from damage
- Lasts for the lifetime of the Solar PV system
- Recommended for outdoor use
- RoHS Compliant
- UL1565 Listing pending
- Environmentally Tested UL2703 & ATSMB117
- Custom designs are available upon request

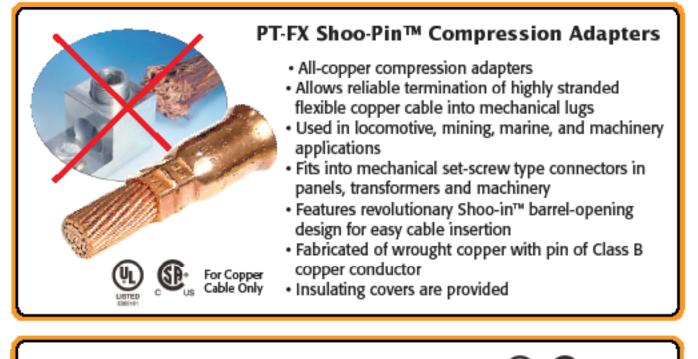
Please visit Wiley website: For more information on other Wiley Products: http:// www.we-llc.com.

For System Compatibility information, visit: http://www. we-llc.com/references/technical-references. For Installation manuals, visit: http://www.we-llc.com/references/ installation-manuals.

www.burndy.com •







#### PT-R Reduce9™ Cable Reducing Adapters

- All-copper compression adapters
- Use where cable is oversized to reduce voltage drop on long runs
- Use fit existing C/B, transformer, or other gear lugs
- For Class B 'building wire' cable stranding only
- Fits into mechanical set-screw type connectors in panels, transformers and machinery
- Fabricated of wrought copper barrel with pin of Class B copper conductor
- Insulating covers provided



## CIT Relay & Switch Snap-Action Switches in Two Sizes

CIT Relay & Switch offers the miniature VM3 and sub-miniature SM3 Series snapaction switches. Available in either SPST or SPDT, these UL/cUL recognized switches offer numerous actuator styles including pin plunger, standard, short and long hinge levers, roller and simulated roller. Termination options include .110" quick connect, solder lug, PC terminal, and right or left PC terminal. Contact material on the VM3 and SM3 Series is silver and both offer choices of operating force. Ratings are up to 16amps at 125VAC/250VAC and IP67 versions are available. We also offer CUSTOMIZATION of our snap-action switch to fit your exact requirements. Contact CIT Relay & Switch engineers to help you determine which solution is right for your application.

Pricing ranges are dependent upon options and volume. Contact CIT Relay & Switch for lead-time information.

CIT Relay & Switch, a division of Circuit Interruption Technology, Inc., manufactures a broad array of automotive, telecom, security, industrial and audio relays and switches in thru-hole, panel and surface mount styles. CIT Relay & Switch products are supported by a worldwide network of distributors and sales representatives. For more information about the CIT Relay & Switch Snap-Action Switches or any of the CIT relay or switch products, contact CIT Relay & Switch, 14680 James Road, Rogers, MN 55374. Phone: 763-535-2339, Fax: 763-535-2194, Email: sales@citrelay.com, Website: www.citrelay.com

## HERCULOCK

Heroutes Industriets, U.S.A.

# Solid Brass/Padlocks

2(10)

Hercules Industries, Inc. brings to you the most complete line of solid brass tumbler pin padlocks.

Our locks serve the needs of utilities, state and local governments, business, and agriculture. Precision crafted out of solid brass, our locks withstand inclement weather conditions, and are available with brass, stainless steel, and heat treated (HT) stainless steel shackles. Locks are available keyed alike or different, masterkeyed, and grand masterkeyed. We also can key our locks to most popular keyways (ie. Master, Corbin, Yale, Best, and others).

We are committed to competitive prices, fast delivery, and top quality.



#### **HERCULES INDUSTRIES, INC.**

Manufacturer of HERCULOCK Padlocks P.O. Box 197 • Prospect, Ohio 43342 Toll Free: 1-800-345-2590 Fax: (740) 494-2274 www.HERCULOCK.com

## Platinum Tools<sup>®</sup> Announces New Unloaded Patch Panels at the 2019 NAB & ISC West Shows; Now Available



Available in Shielded and Unshielded, and 24-Port and 48-Port Configurations

Platinum Tools<sup>\*</sup>, the leader in solutions for the preparation, installation, hand termination and testing of wire and cable, is proud to announce the launch of the new shielded and unshielded Unloaded Patch Panel line during both the 2019 NAB Show, held in Las Vegas, Nev. from April 8-11 at the Las Vegas Convention Center, booth # C11447 and ISC West 2019, held in Las Vegas, Nev. from April 10-12 at the Sands Expo and Convention Center, booth #6035. The new 24- and 48-port line is now available.

"Platinum Tools is known as a leader in providing products and solutions for the structured wiring networking world of data, voice, and video," said Lee Sachs, Platinum Tools, Inc. president and general manager. "Our Unloaded Patch Panels make media integration easy, flexible, and field-configurable by populating the ports as needed."

The Unloaded Patch Panels make it easy to mix and match keystones, replace a damaged port, and add new runs. They also make category upgrades easy, maximize limited rack space, and are perfect for residential or small office applications.

Unloaded Patch Panel 24 Port (p/n 641-24U):

- Unshielded
- 24 port, 1U, UTP, 19 in.
- MSRP: \$25.25

Unloaded Patch Panel 24 Port (p/n 642-24SU):

- Shielded
- 24 port, 1U, STP, 19 in.
- MSRP: \$32.15

16 TEC Magazine • March 2019



## You need more than just equipment. You need a safety solution.

You work hard and have the courage and commitment to take on the biggest challenges. The job can be dangerous and we know you depend on not just your equipment, but on a company offering complete solutions including safety evaluations, products selection, training, and expertise. A customer-focused company that has your back and gives you the confidence to do your job safely— **MSA is that company.** 

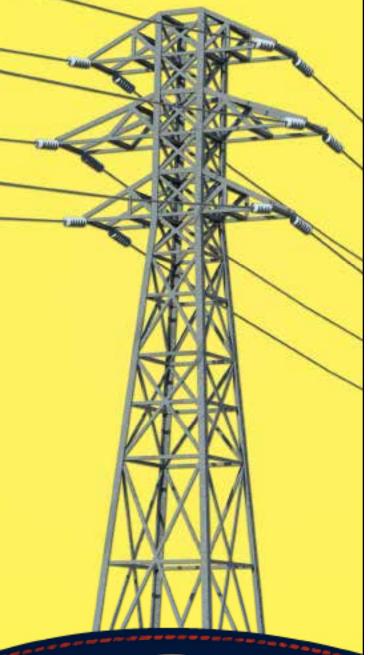
To learn more about MSA's complete line of safety solutions or request a FREE, no obligation safety evaluation, visit MSAsafety.com/safetyevaluation.



## WE KNOW WHAT'S AT STAKE.

THE REPORT OF THE OWNER AND ADDRESS.

## WE HAVE THE ROPE TO GET THE JOB DONE.





800-358-767

www.bucrope.com

Unloaded Patch Panel 48 Port (p/n 643-48U):

- Unshielded
- 48 port, 2U, UTP, 19 in.
- MSRP: \$47.95

Unloaded Patch Panel 48 Port (p/n 644-48SU):

- Shielded
- 48 port, 2U, STP, 19 in.
- MSRP: \$57.85

Additional features include:

- For use with RJ45 Ethernet, HDMI audio/video, voice, USB, and other applications
- Ports are numbered for easy connection identification
- Write-on labels with protective covers
- Mounts into 1U/2U of EIA-standard 19 in. 2-post rack or wall-mount rack enclosure
- Support and management bar is removable and includes cable zip ties to secure cables

For additional pricing and more information on Platinum Tools and its complete product line, please visit www.platinumtools.com, call (800) 749-5783, or email info@platinumtools.com.

www.platinumtools.com •



 Clean up those cabs and get your fleet organized!

### Your Total Mobile Office Solution

Ui

The Truck Console-X combines your Laptop Work Station, Radios, Speakers, Cables, Storage and Cup Holders, No Drill Installation Brackets Included.

The Truck Console -X is the latest innovative mobile office solution to join the Mable Sesk brand tamily of products. This complete control, communication and convenience Utility Truck Console is becoming the new standard for fleets of all sizes. The design of the Truck Console -X has originated from our years of experience working directly with the lineman, supervisors, communications, and fleets of some of the most notable utility companies in America. Loaded with standard and optional features that maximize ergonomics, productivity, and fleet/felecom standards into ane Mobile Office Solution.

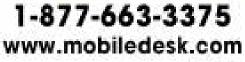
#### SCREEN OUT SCREEN-DISABLER Blanks your screen while you drive

Our Patented Screen Out App Stops teating while driving for all employees on all tablets laptaps and small phones that run Windows IOS or Android Operating Systems. It's that easy!

877-663-3375 Ext 303. www.screenout.net







### Platinum Tools<sup>®</sup> Launches MapMaster<sup>™</sup> mini RJ45 Pocket Cable Tester at 2019 NAB & ISC West Shows

Now Available, the MapMaster<sup>™</sup> mini Pocket Cable Tester (p/n T109C) Maps Multiple Locations of RJ45 Network Cables and Detects Shorts, Opens, Miswires, Reversals, and Split-Pairs

Platinum Tools, the leader in solutions for the preparation, installation, hand termination and testing of wire and cable, is proud to announce the launch of the Map-Master<sup>™</sup> mini Pocket cable tester (p/n T109C). Now available, the MapMaster<sup>™</sup> mini has an MSRP of \$59.95 USD and will be featured during the 2019 NAB Show, held in Las Vegas, Nev. from April 8-11 at the Las Vegas Convention Center, booth # C11447, and ISC West 2019, held in Las Vegas, Nev. from April 10-12 at the Sands Expo and Convention Center, booth #6035.

"The MapMaster<sup>™</sup> mini RJ45 cable tester maps multiple locations of RJ45 network cables and detects shorts, opens, miswires, reversals, and split-pairs," explained George Jang, Platinum Tools, Inc. product manager. "A built-in tone generator with four different tone combinations can be used with a tone probe to detect where a cable is routed and the location of the end of the cable. Every installer should have this on hand for every installation, troubleshooting, and maintenance calls."

The MapMaster<sup>™</sup> mini determines wire condition, whether good or faulty, and displays it on its LCD display. A set of five mapping remotes is included for locating cables terminated in wall jacks or patch panels. The MapMaster<sup>™</sup> mini also identifies the patch panel port where network cable is terminated and can find and fix the position of exposed or hidden cables.

Additional features include:

- Large LCD displays TIA/EIA568A/B wiremap sequence & easily identifies faults
- Identifies Network ID-Only Remotes Set #1-5
- Compatible with up to two test and map remotes
- Quickly identify unlabeled network cables

- Trace/locate network cables and locate breaks/ opens in network cabling
- Single multi-function button operates test functions, tone generation, and ID-Only remotes location
- Self-storing remote
- Auto power off prevents depletion of battery power

For additional pricing and more information on Platinum Tools and its complete product line, please visit www. platinumtools.com, call (800) 749-5783, or email info@ platinumtools.com.

www.platinumtools.com •







tenti di stagonatione



Join Us At LIGHTFAIR<sup>®</sup> International 2019! Philadelphia, PA + May 21-23 + Booth #5319

BrandonIndustries.com

## PHASE CONVERTERS RUN THREE-PHASE EQUIPMENT FROM SINGLE-PHASE POWER SOURCE



#### 2/3 POWER

MOTORS ONLY



THE STATIC CONVERTER HUNS MOTOR LOADS ONLY - AT 2/3" BATED HIR. IT IS THE WORKHORSE FOR COUNTLESS THOUSANDS OF REGULAR SHOP MACHINES SUCH AS MILLS, LATHES, ETC. THE STATIC CONVERTER IS A GREAT CHOICE WHEN FULL POWER IS NOT NEEDED.

CONSULT PHASE-A-MATIC, INC. TO SEE IF THIS IS THE RIGHT CHOICE FOR YOUR APPLICATION "30% FOR DUILS WOUND MOTORS

## Need 3-phase power?

## GET CONVERTED

SINCE 1965 OVER 45 YEARS EXPERIENCE IN PHASE CONVERTER SYSTEMS



MOST MODELS IMMEDIATE DELIVERY FROM STOCK

RUN ANY THREE-PHASE MACHINE AT ANY SINGLE-PHASE LOCATION. GREATER OPPORTUNITIES FOR YOUR BUSINESS, YOUR FUTURE

#### 661-947-8485

FOR 46 YEARS PHASE-A-MATIC, INC. HAS DOEN PROVIDING PHASE CONVERSION FOR THE HOME SHOP MACHINIST, THE INDUSTRIAL MACHINIST, THE INDUSTRIAL MACHINIST, THE FARMER IN AGRICULTURAL USE, FOR FOOD PROCESSING EQUIPMENT, THE WOODWORKING INDUSTRY, THE WOODWORKING INDUSTRY, MEDICAL EQUIPMENT, ELEWATORS, RADRA TV TRANSMITTERS - FOR VIRTUALLY ANY THREE PHASE LOAD TYPE.

PHASE-A-MATIC

# ROTARY

- FULL POWER
- ANY 3-PHASE LOAD
- CNC AVAILABLE



THE RODIARY COMPARTER MOVIDES THE FULL POWER NECESSARY TO RUN ALL LOAD TYPES, WHETHER MOTOR, RESISTIVE, INDUCTION OR TRANSFORMER LOAD, OUR ROTARY CONVERTER WILL POWERIT.

THE CHC ROTARY CONVERTER IS AWAILABLE TO RUN EQUIPMENT THAT IS VOLTAGE-SENSITIVE SUCH AS CNC / PLC APPLICATIONS,



#### www.phase-a-matic.com

#### Ad INDEX

Company	Pg.	Website
Brandon Industries	22	www.brandonindustries.com
Buccaneer Rope	18	www.bucrope.com
Contractors Lighting	1	www.contractorslighting.com
Cost Less Lighting	IFC	www.costlesslighting.com
Dabmar	21	www.dabmar.com
Emars	24	www.emarsinc.com
Greaves	13	www.greaves-usa.com
Griplock	11	www.griplocksystems.com
Herculock	15	www.herculock.com
lpex	9	www.ipexna.com
Keystone Electronics	IBC	www.keyelco.com
Kraloy	BC	www.kraloyfittings.com
Krenz Vent	2	www.krenzvent.com
Mobile Desk Solutions	19	www.mobiledesk.com
MSA Safety	17	www.msasafety.com
Phase-A-Matic	23	www.phase-a-matic.com
Randl Inc	7	www.randl-inc.com
Roll-A-Reel	18	www.rollareel.net
SP Products	10	www.spproducts.com
Steelman Industries	10	www.steelman.com
Sylvania	3	www.sylvania.com/luminaries
Warehouse Equipment	6	www.warehouseequipment.com



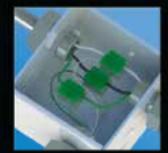


... with i-Clamps - Wire Connectors



One-Way Series for splicing several lines together





T-Series for branching off a common wire run



Two-Way Series uniquely designed for pre-assembly to add fixtures or components to existing wiring



 IDC (Insulation Displacement Connectors) 

 Easy to use
 Quick and reliable connections
 Tamper Proof · Designed to withstand shock and vibration 
 Housing made from durable Polycarbonate
 Tin-plated, High Performance, copper alloy contacts
 For use with 10-22 AWG insulated wires



www.keyelco.com • (516) 328-7500 • (800) 221-5510



## CONDUIT REPAIR made QUICK & EASY

### Easy as...



Two half shell pieces close around the installed wire and cable Interlocking joints provide water-tight seal Solvent cement restores the conduit to its original form

EPR Conduit Repair Kits from Kraloy allow for fast and easy repairs of damaged conduit caused by actions such as earth excavation, horizontal and core drilling.



#### Features & Benefits

- Restores structural integrity of conduit system
- Cost savings with fast and easy installation
- Repair of electrical, telecommunication, utility and CATV applications
- Available in sizes ranging from 1-1/4 6" and 24" length



Tall Free 800-265-1815 | Iralayfittings.com

، چه کورنان انتخاباته منشقه بردانیا براسندن است. است متصد اعتباری می است. رسایی می (PP) ماسطین می آسایی بردی میشو انتخاب است. است زمینی انتخاب است.