

THE MOST UNIQUE AND RELIABLE RESOURCE FOR TODAY'S ELECTRICAL CONTRACTOR

THE ELECTRIC CURRENT

**Klein Tools'®
Tone & Probe Test
and Trace Kit
Offers Simple
Solution for
Multiple
Worksite
Needs**



VW-1 E331984 CABLE

REPAIR CONDUIT IN A SNAP!

- No Tape
- No Plastic Straps,
- No Metallic Straps

NO KIDDING!

Designed especially for
power, communications,
and fiber optics



1
Step 1: Remove
Damaged Conduit



2
Step 2: Cut Split
Duct Conduit to Fit



3
Step 3: Snap in
Place



4
Step 4: Attach
Adapters



5
Step 5: Finish Job
in Record Time



“The World Leader In Split Conduit Products”



Conduit Repair Systems, Inc.

The World Leader In Split Conduit Products

800-670-1804

fax: 435-673-8724

email: crs@conduitrepair.com

Please Visit Our Website at WWW.CONDUITREPAIR.COM

Making perfect connections has never been simpler. In fact, now it's a **SNAP!**

NEW **SNAP** Connectors from Greaves. A revolutionary compression connector concept that gets the job done with just a few turns of a standard wrench!

- ▶ Time-saving, easy installation
- ▶ Superior pull-out strength and conductivity
- ▶ No bulky and costly tools and dies



GREAVES

PG 4	Klein Tools® Tone & Probe Test and Trace Kit Offers Simple Solution for Multiple Worksite Needs
PG 8	Klein Tools® Combines Two Products for Easy to Use Testing Kit at Great Value
PG 10	BitFlow Shipping its First CoaXPress 2.0 Frame Grabber
PG 12	Ad Index



Pg 4

Vol. 20 Issue 6

PRESIDENT

Glen Hobson
205-441-5591
glen@tipsmag.net

PUBLISHER

Bart Beason
205-699-5495
bart@theelectriccurrent.com

ADMINISTRATIVE DIRECTOR

Steven Hobson
steven@tipsmag.net

EDITOR

Brandon Greenhill
brandon@cjspanishing.com

CREATIVE/ WEB DIRECTOR

Jacklyn Greenhill
jacklyn@cjspanishing.com

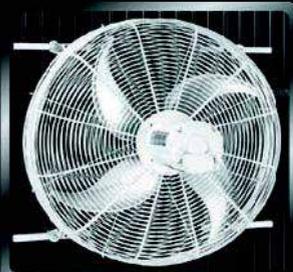
P.O. Box 1568 • Pelham, AL 35124
Phone: 205-441-5591 • Fax: 205-624-2181
www.theelectriccurrent.com
info@theelectriccurrent.com

The Electric Current™ is published eight times a year on a monthly basis by CJS Media. *The Electric Current™* 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™ is distributed 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.



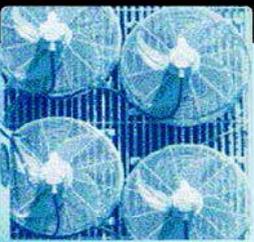
Get Cool!



Extend transformer life!

Increase transformer capacity up to 166%!

- expert technical assistance
- low sound levels
- energy-efficient motors
- large inventory
- one-piece cast aluminum blades
- galvanized or stainless steel guards





KRENZ-VENT™

quality engineered, performance tested

p.o. box 187 germantown, wisconsin 53022

262.255.2310

www.krenzvent.com

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



Expanded Polypropylene Grade Ring System



THE FASTEST AND LIGHTEST GRADE ADJUSTMENT SYSTEM.



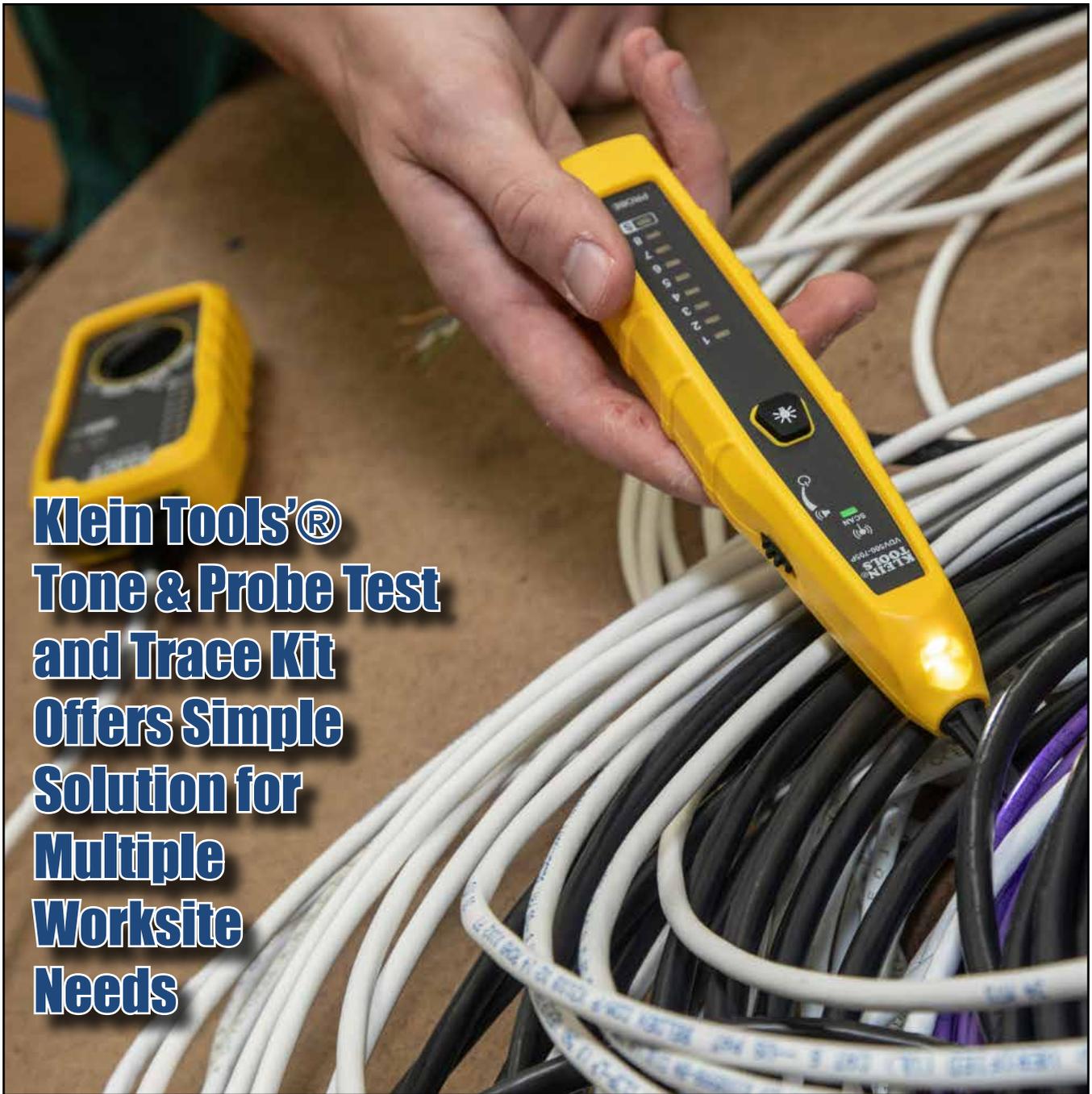
OVER 175,000 INSTALLED

Used for more than a decade in the municipal sewer industry Cretex Specialty Products is now making our Pro-Ring expanded polypropylene (EPP) grade system available to power utilities and the telecom industry. These rings are light weight, yet traffic rated and come in varying thicknesses from $\frac{3}{4}$ " to 6" and we offer an angled or tapered ring as well. Our newest size has a 36" ID x 46" OD. Custom made sizes available.

AVAILABLE IN RECTANGULAR AND
SQUARE SHAPES



800-345-3764 info@cretexseals.com www.cretexseals.com

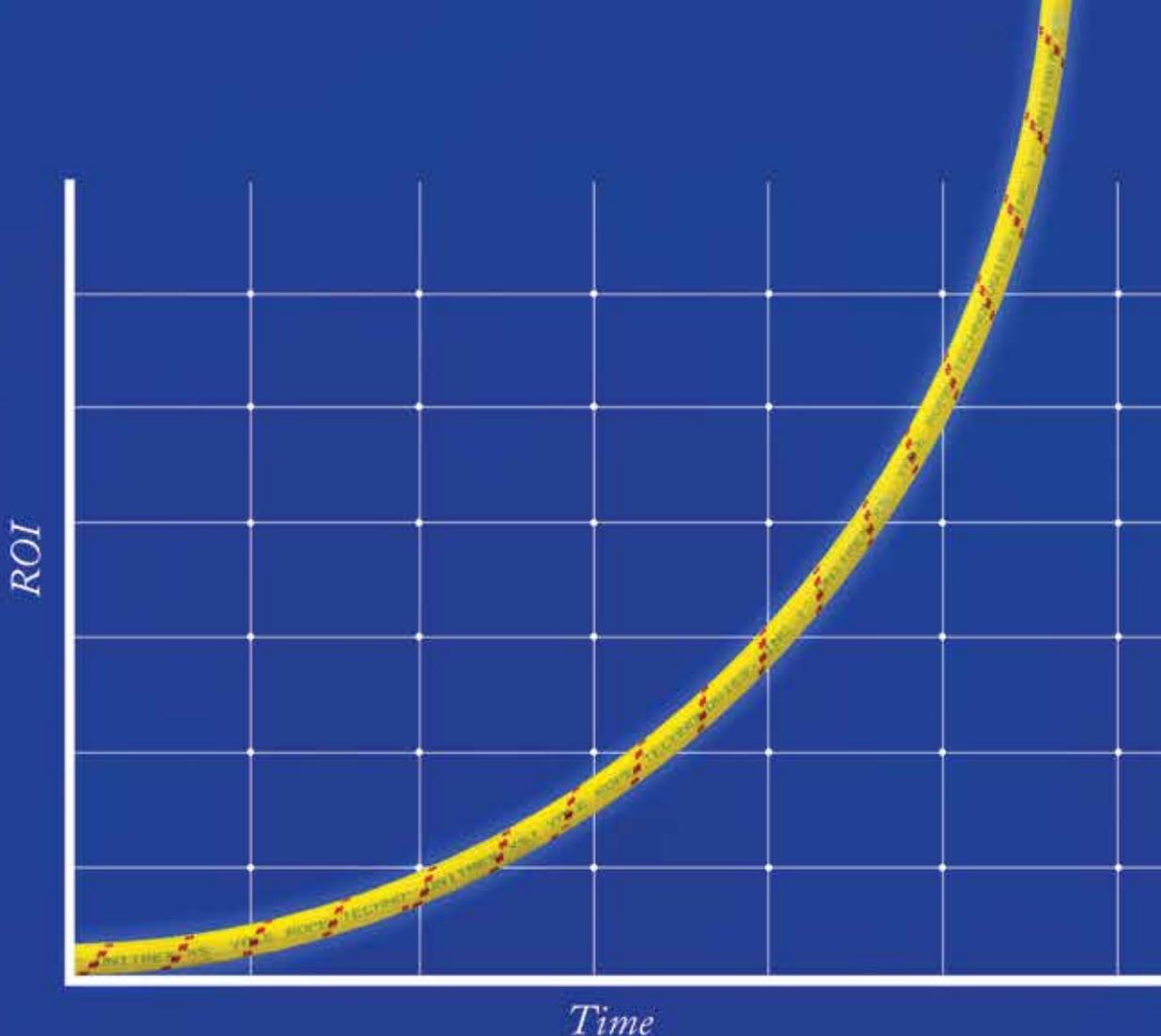


Klein Tools® Tone & Probe Test and Trace Kit Offers Simple Solution for Multiple Worksite Needs

Klein Tools, for professionals since 1857, introduces the VDV500-705 Tone & Probe Test and Trace Kit, designed to give users an opening price point solution for simple toning and tracing as well as wire map testing of non-energized wire.

Tone & Probe Test and Trace Kit (Cat. No. VDV500-705)

- Easy-to-use tone generator traces wire when used with the included probe
- Responsive probe with durable, non-metallic, conductive tip
- Alligator clips for unterminated wires



Unitrex XS™ Max Wear. Unmatched performance in the field and in the boardroom.

Electric line stringing is easier and more economical with Unitrex™. Made with a core of Honeywell Spectra®, it is up to 10 times lighter than steel, while delivering comparable strength. The urethane-coated polyester jacket provides excellent abrasion resistance for great productivity that lasts.

To learn more, visit www.yalecordage.com

YALE CORDAGE
Performance. Passion. Possibilities.

77 Industrial Park Road | Saco, Maine 04072 | p (207) 282-3396, f (207) 282-4620

- RJ45 to RJ45 test cable included
- Toner and probe together perform pin to pin wire map test on RJ45 terminated cables
- Work light on probe tip for use in dark spaces
- Adjustable volume control dial
- Headphone jack for noisy environments (headphones not included)
- Replacement test cables available (Cat. No. VDV770-855)

"In creating this kit, we wanted to provide a simple-to-use device that was also multi-functional," says Karen Alpan, product manager with Klein Tools. "This kit functions not only as a tone generator and wire tracing probe for non-active wire runs, but also performs pin-to-pin wire mapping testing."

For more information, visit www.kleintools.com/new-products or search for #NewKleins on social media.

About Klein Tools

Since 1857 Klein Tools, a family-owned and operated company, has been designing, developing and manufacturing premium-quality, professional-grade hand tools. The majority of Klein tools are manufactured in plants throughout the United States and are the No. 1 choice among professional electricians and other tradespeople. For more information, visit www.kleintools.com. Klein is a registered trademark of Klein Tools, Inc.

www.kleintools.com •

Transition Fittings

IP13a-13h
PVC SCH 40 & 80 to Rigid Conduit
When Exiting the Concrete Slab

a PVC to PVC
b PVC to EMT
c PVC to Rigid

Transitions in Less Than 5 Minutes Per Installation
Use for Entire Job – Not Just for Repair

SPPRODUCTS, INC.

Productivity and value thru ideas
FOR SAFER BETTER FASTER JOBS

We're Proud to be the Electricians' Friend for Over 50 Years!

Conduit & Box Support Plates

Support From Only ONE Rod
Plus Eliminates Conduit Clamps

IP6
4-Way
IP7
8-Way

1 Piece Reaming Bit

IP15

PATENT PENDING

End Bell Adapter

IP3a

Smooth edges allow faster trouble free wire pulls.
PVC Schedule 40 & 80
Sizes 1/2" thru 6"

QwikDuct

HDPE CUSTOM TEMPLATES
IP1

Eliminates chipping out concrete for easier & faster installation
1/2" thru 6" Conduit
1/2" thru 2" Offset

No Workers Below Prevents Injuries or Deaths
4,000 PSI Tensile Strength at Break
Over 12X Faster than Spacers & Chairs

IP11 Trapeze Brackets

Original EZUTB – Size 1/2" thru 1 1/2" Conduit or equal size MC Cable.
SAVE OVER 20 MINUTES PER FOOT

IP19 4-Conduit Support Block

Support up thru 4 conduits From ONLY 1 ROD!

IP3a Flat "Big O" Box Support Bracket

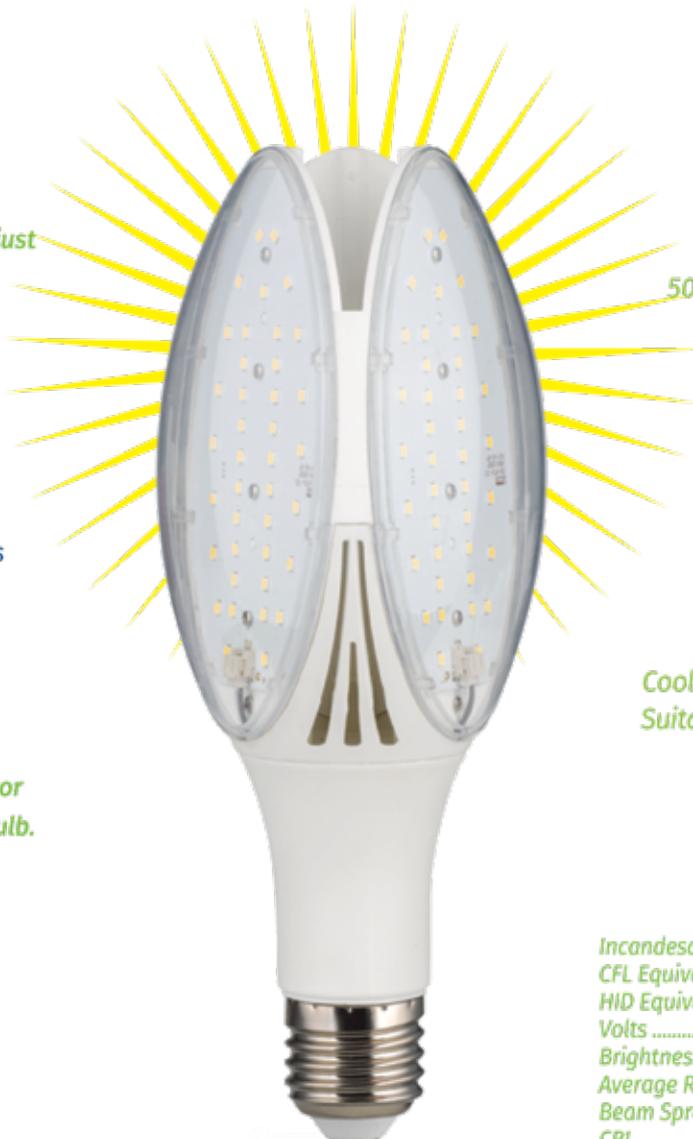
Slide left or right over face of studs install with only 1 screw at each end plus enables boxes to be slid left or right to any location between studs.

Plus More Products Constantly Being Invented . . . Please Call With Your Ideas!

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

The Bright Idea S2 LED Bulb

is the LED solution you've been waiting for



Let's be real. A light bulb isn't just a light bulb...

Replace old HID lamps with the new LED S2

From public safety to maintenance needs, this bright, flexible and inexpensive LED Solution reduces headaches across the board.

Simply source the latest in outdoor lighting technology from the best lighting source. And, the most trusted distributor of the Brex Lighting® S2 LED Bulb.

Kelvin Options

3000K

4000K

5000K

And more to come

Longevity + Output

50,000 Hours / 4,200 Lumens

Compatibility

Shape + Size of Traditional HID Lamps

Cost + Power Usage

Half the Cost and Energy Use of Typical HID Lamps

Heat

Coollest Operating Temperatures Suitable for Enclosed Luminaries

Support

5-Year Warranty

<i>Incandescent Equivalent Wattage</i>	<i>.... 300</i>
<i>CFL Equivalent Wattage</i>	<i>..... 85</i>
<i>HID Equivalent Wattage</i>	<i>..... 100</i>
<i>Volts</i>	<i>..... 120-277</i>
<i>Brightness Lumens</i>	<i>..... 4200</i>
<i>Average Rated Hours</i>	<i>..... 50,000</i>
<i>Beam Spread</i>	<i>..... 330°</i>
<i>CRI</i>	<i>..... >80</i>

BREX
LIGHTING
LIGHTING SOLUTIONS. SIMPLIFIED

32W



877-BREX-LED

www.BREXLIGHTING.com

Klein Tools® Combines Two Products for Easy to Use Testing Kit at Great Value

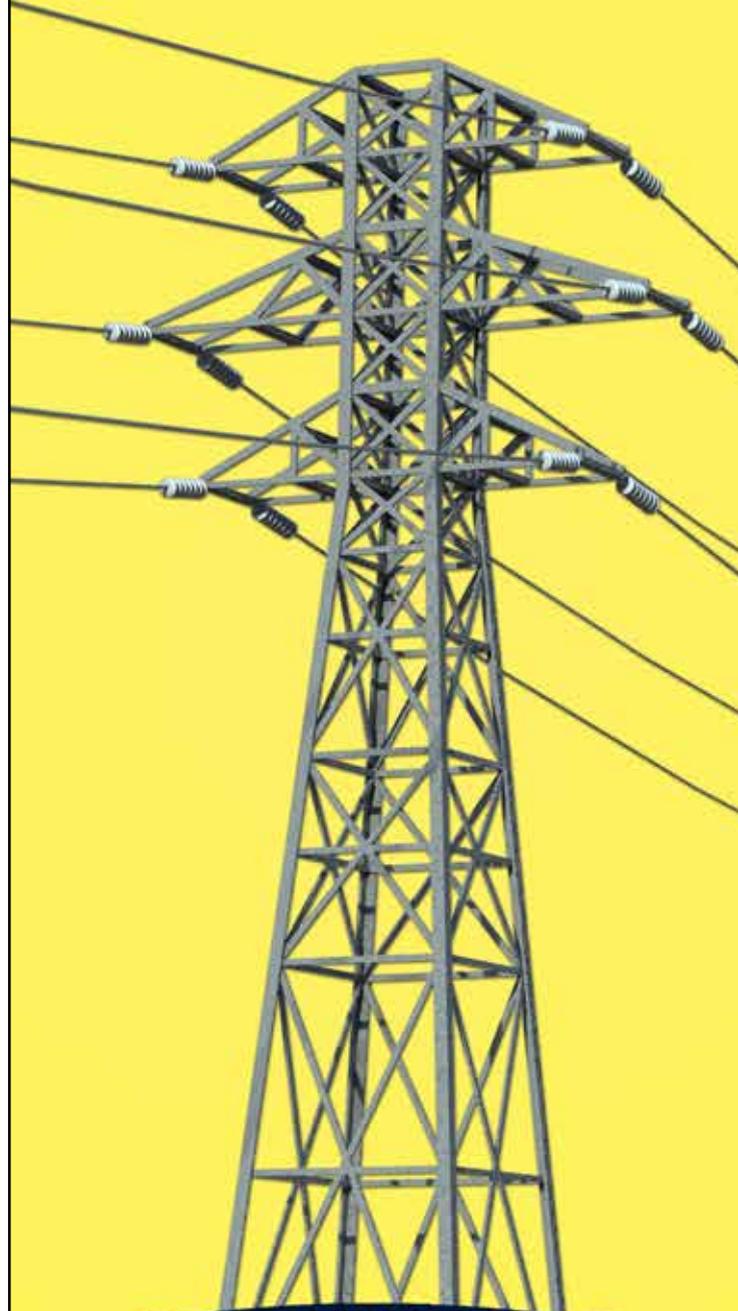


Klein Tools, for professionals since 1857, introduces a new Electrical Tester Kit, combining two essential tools for electricians, the NCVT-5A Dual Range Non-Contact Voltage Tester with Laser Pointer and the RT210 GFCI Receptacle Tester, at a great price point.

Electrical Tester Kit with Dual-Range NCVT and GFCI Receptacle Tester (Cat. No. NCVT5KIT) NCVT-5A

- Dual-range non-contact tester detects AC voltage from 12 to 1000V (70 to 1000V and 12 to 1000V ranges)
- Bright, integrated laser pointer for identifying objects of interest on the jobsite
- Delivers simultaneous visual and audible voltage indicators when AC voltage is detected

WE HAVE THE ROPE TO GET THE JOB DONE.



- Lightweight, compact tool with pocket clip for easy storage and quick access
- Built to withstand a 9.9 foot (3m) drop
- CAT IV 1000V safety rating RT210
- Detects the most common wiring problems in standard and GFCI receptacles
- Works on GFCI outlets and confirms operation of the ground fault protective device
- Built to withstand a 6.6 foot (2m) drop

"In putting this kit together, we wanted to give trade professionals two essential tools at a great value," said Sabrina Kalsi, product manager at Klein Tools. "The NCVT-5A is a dual-range non-contact voltage tester with integrated laser pointer. The dual-range tester features a bright Class 3a laser that enables the user to highlight objects on the jobsite at far distances making it perfect for working on sites from small residential developments to large-scale commercial endeavors. Paired with the RT210 receptacle tester, this is the perfect kit for electricians, facilities and maintenance professionals, and construction workers."

For more information, visit www.kleintools.com/new-products or search for #NewKleins on social media.

About Klein Tools

Since 1857 Klein Tools, a family-owned and operated company, has been designing, developing and manufacturing premium-quality, professional-grade hand tools. The majority of Klein tools are manufactured in plants throughout the United States and are the No. 1 choice among professional electricians and other tradespeople. For more information, visit www.kleintools.com.

Klein is a registered trademark of Klein Tools, Inc.

www.kleintools.com •



800-358-767

www.bucrope.com

BitFlow Shipping its First CoaXPress 2.0 Frame Grabber



New Claxon-CXP4 doubles transmission speeds of previous CoaXPress standard, Offers full feature set of CoaXPress 2.0 specification

For over two decades, BitFlow has been known for pushing the limits of what a frame grabber could do in machine vision systems. Today, BitFlow pushed those limits even further by shipping its new Claxon-CXP4, a quad CoaXPress-12 PCIe Gen 3 frame grabber that accelerates video transmission speed to 12.5 Gb/s -- or twice as fast as the current CXP 1.1 standard. Now in full production, the new frame grabber will be shipping this month and available through BitFlow's international distributor network.

"While the Claxon is not the first CXP 2.0 frame grabber on the market, it is certainly one of most stable and feature-rich, since our engineering team built the full CXP 2.0 specification into it rather than pick and choose what capabilities the customer was permitted to use," said Donal Waide, Director of Sales, BitFlow, Inc. "A machine system designer can only experience the full potential of CXP 2.0 performance by having access to all its capabilities, which they do with the new Claxon. It guarantees BitFlow customers will be thoroughly ready for the increased data demands the latest generation of high-resolution, high-speed cameras in complex high-speed industrial, military and medical applications."

Despite doubling its speed, BitFlow engineers kept the overall architecture of the Claxon-CXP4 identical to the company's previous generation Cyton CXP-6 frame grabber, allowing users to easily swap-out slower CXP 1.1 cameras with more powerful CXP-12 or CXP-10 cameras without major software changes or system down-

time. It accommodates capture from up to four CXP-12 or CXP-10 cameras simultaneously, plus has high speed inputs and outputs to support an array of sensors and motion encoders. With four cables and four CXP-12 cameras, the maximum data transfer rate is 5 GB/S, the highest data acquisition rate in the industry today, even at cable lengths up to 40 meters.

By harnessing the speed of CXP 2.0, the Claxon-CXP4 accelerates uplink to 41.6 Mbps, a benefit that enables a host to send triggers to a camera at rates of 600 kHz in single trigger mode or almost 300 kHz in dual trigger mode, all without requiring a dedicated high-speed uplink cable. Performance is also improved by the frame grabber's use of Micro BNC connectors which are more robust and run at higher speeds than traditional DIN 1.0/2.3 connectors. A heartbeat packet has also been added which supports time synchronization of multiple cameras, along with the ability to host event packets so that asynchronous messages can be sent from the camera.

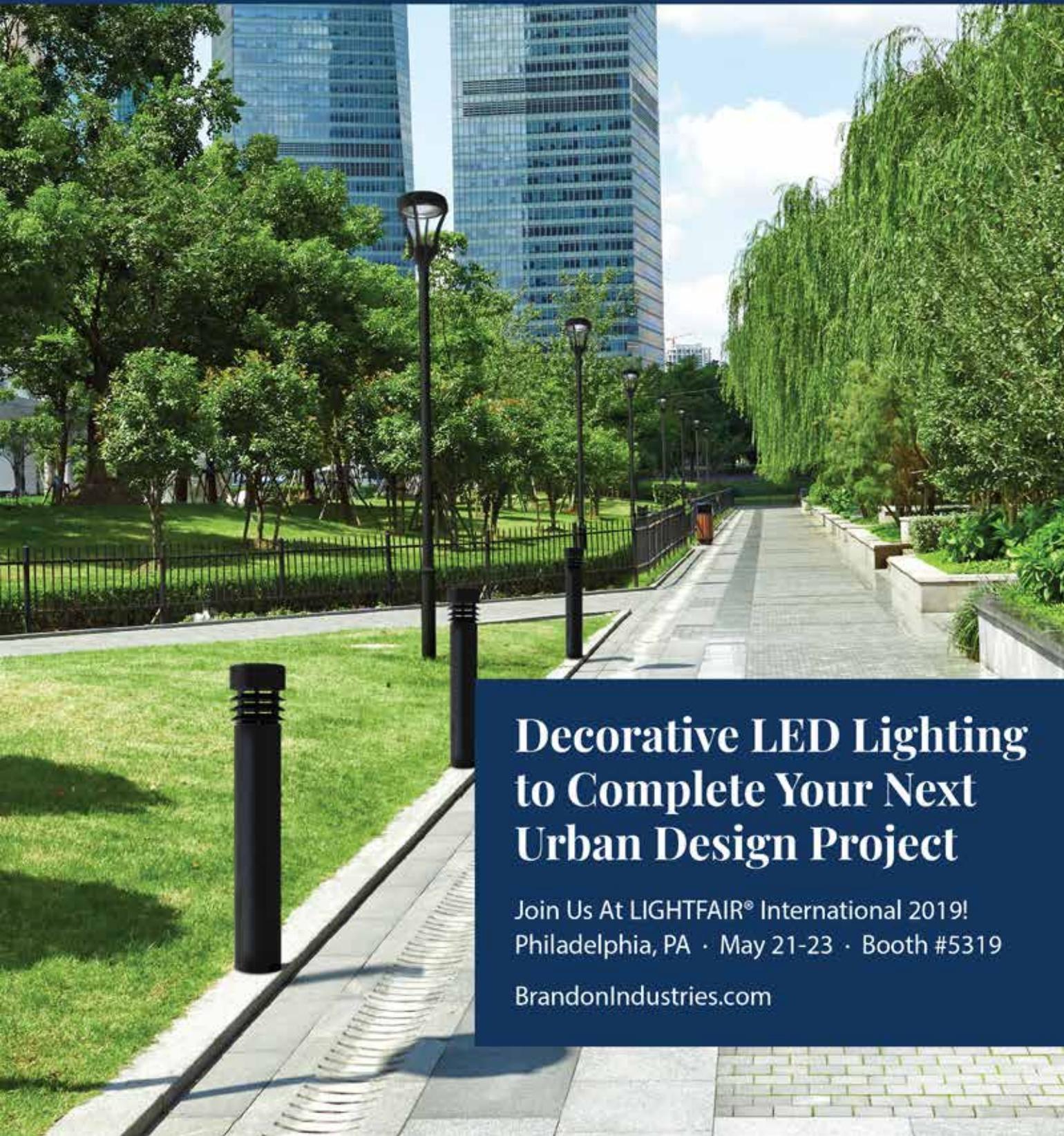
Adding the Claxon-CXP4 to an application is simplified by the BitFlow SDK supporting 32-bit and 64-bit operating systems, or by downloading free drivers from the company's website for 3rd party machine vision packages. Applications can be developed using C/C++/.NET and the company's sophisticated buffer management APIs. The software included with the Claxon-CXP4 is compatible with all other BitFlow frame grabbers, making the pivot from Camera Link to CXP fast and trouble-free.

For more information, please call 781-932-2900 or visit www.bitflow.com



BRANDON[®]

I N D U S T R I E S



Decorative LED Lighting to Complete Your Next Urban Design Project

Join Us At LIGHTFAIR[®] International 2019!
Philadelphia, PA · May 21-23 · Booth #5319

BrandonIndustries.com

Ad Index

Company	Pg.	Website
Brandon Industries	11	www.brandonindustries.com
Brex Lighting	7	www.brexlighting.com
Buccaneer Rope	9	www.bucrope.com
Conduit Repair	IFC	www.conduitrepair.com
Cretex Seals	3	www.cretexseals.com
Emars	12	www.emarsinc.com
Greaves	1, IBC	www.greaves-usa.com
Krenz Vent	2	www.krenzvent.com
Randl Inc	BC	www.randl-inc.com
SP Products	6	www.spproducts.com
Yale Cordage	5	www.yalecordage.com



On Site Employee Verification

Bob Put In 9 Hours And 3 Minutes Of Work On Tuesday.
Stop Guessing. Start Verifying!

Always Know Who, When and Where with eMars Compliant Client and RFID
Be Davis - Bacon Compliant in Minutes • Users Report 85% Savings of Money and Time • Alerts You of 30 Compliance Errors

Ph. 480-595-0466

 eMarsinc.com

Making perfect connections has never been simpler. In fact, now it's a **SNAP!**

NEW *SNAP* Connectors from Greaves. A revolutionary compression connector concept that gets the job done with just a few turns of a standard wrench!

- ▶ Time-saving, easy installation
- ▶ Superior pull-out strength and conductivity
- ▶ No bulky and costly tools and dies



GREAVES

First there was 4 square...
and now the **REVOLUTIONARY 5 Square® 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®** Boxes (5" x 5" x 2-7/8") provide up to 88 in³ 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!

Fire Signal



- TWICE THE VOLUME AS MOST BOXES
- SAVE LABOR...INCREASE PROFITS
- ELIMINATES TROUBLESHOOTING TIME AND COST
- FULLY UPGRADEABLE SYSTEM
- SPECIFIED BY ENGINEERING FIRMS, HOSPITALS, UNIVERSITIES & GOVERNMENT AGENCIES
- AVAILABLE IN ZINC OR RED

Telecommunications



- INTEGRAL CABLE MANAGEMENT
- SAVE LABOR...INCREASE PROFITS
- FACILITATES MIN. BEND RADIUS REQUIREMENTS
- SUPPORTS CURRENT AND EVOLVING SYSTEMS
- SUPPORTS PoE PLUS
- SPECIFIED BY ENGINEERING FIRMS, HOSPITALS, UNIVERSITIES & GOVERNMENT AGENCIES