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

URRENT

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

AstroNova Announces 8-Channel Input Module for Bridge, Current, Voltage, and IEPE Measurements



Install Peace of Mind!

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!





Step 1: Remove Damaged Conduit



Step 2: Cut Split Duct Conduit to Fit



Step 3: Snap in Place



Step 4: Attach Adapters



Step 5: Finish Job in Record Time

REPAIR CONDUIT IN A SNAP!

No Tape
No Plastic Straps,

No Metallic Straps

NO KIDDING! Designed especially for power, communications, and fiber optics



"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

TEC Contents • May 20202

PG 4	AstroNova Announces 8-Channel Input Module for Bridge, Current, Voltage, and IEPE Measurements
PG 6	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





Vol. 20 Issue 5

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@cjspublishing.com

CREATIVE/ WEB DIRECTOR

Jacklyn Greenhill jacklyn@cjspublishing.com

Get Cool! Extend



Extend transformer life!

Increase transformer capacity up to 166%!

- expert technical assistance
 large inventory
- Iow sound levels

p.o. box 187 gen

energy-efficient motors



· galvanized or stainless steel guards



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 CIS 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 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



instal commencemental literation

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

AstroNova Announces 8-Channel Input Module for Bridge, Current, Voltage, and IEPE Measurements

New sensor input module provides flexibility and higher channel density to reduce cost of test

AstroNova® Test and Measurement expands its line-up of input modules with the release of the IBIV-8 module for Daxus® DXS-100 and SmartCorder® DDX-100 data acquisition systems. With internal bridge completion, shunt calibration, and support for the most common bridge resistance values, the IBIV-8 is ideally suited for bridge-based sensors and strain measurements. The IBIV-8 also offers unparalleled flexibility allowing users to perform a variety of measurements in a single module.

Offering eight input channels, the IBIV-8 reduces the cost per channel by as much as 38% versus existing modules and competitive offerings. Available with 10-pin Lemo or D-Sub connectors, the IBIV-8 simplifies wiring, and built-in hardware-based counter and timer functions eliminate the need for additional hardware.

Product features include:

- Simultaneous sampling at up to 100 kS/s/ch
- 5 measurement ranges (+/- 10 V, +/- 2 V, +/- 200 mV, +/- 50 mV, and +/- 20 mV)
- Full 24-bit resolution across selected measurement range
- High accuracy (+/- 0.03% for 10V, 2V and 200 mV attenuator settings)
- Supports 120, 350, 500, and 1000W bridge resistances
- Software selectable Internal ¼ and ½ bridge completion (120 and 350W) and shunt calibration
- 10-pin Lemo or D-Sub connector options
- Built-in counter and timer functions

All AstroNova Test and Measurement products are designed and manufactured in the USA and supported by a global team of engineers.

To learn more about the IBIV-8 module and the Daxus & DDX data acquisition system capabilities, visit: *https://tm.astronovainc.com/products/data-acquisition-systems/* •

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

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



860-664-4505 | 800-243-1130 | www.greaves-usa.com | info@greaves-usa.com



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

Klein Tools (www.kleintools.com), 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)

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

Coolest Operating Temperatures Suitable for Enclosed Luminaries

> Support 5-Year Warranty

Incandescent Equivalent Wattage	300
CFL Equivalent Wattage	85
HID Equivalent Wattage	100
Volts	
Brightness Lumens	4200
Average Rated Hours	50,000
Beam Spread	3302
CRI	>80



877-BREX-LED

www.BREXLIGHTING.com

WE HAVE THE ROPE TO GET THE JOB DONE.





- Bright, integrated laser pointer for identifying objects of interest on the jobsite
- Delivers simultaneous visual and audible voltage indicators when AC voltage is detected
- 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 largescale 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/new-products •

800-358-767

www.bucrope.com



ENGINEERED, TESTED & CERTIFIED

A Tethered Tool System for Applications Involving Work at Height

LEAVE IT TO THE EXPERTS

Snap-on provides a drop prevention system like no other.

We'll work with you to determine your drop prevention needs... including the tools, attachment points, lanyards, pouches, and holsters, that combine to create a turnkey solution that enables your workers to do just that...WORK.

SAVE TIME AND MONEY

Engineered attached points don't interfere with the functionality of the tools, and are more durable than simple "add-ons" that require frequent maintenance or replacement.

BEAT THE STATISTICS

About 70% of drops happen during the exchange of the lanyard from one tool to another. The Snap-on Tools@Height system features independent tethering, which means each tool is attached to its own lanyard. Minimizing exchanges reduces the likelihood of drops and increases safety.

MINIMIZE RISK

Independent tethering also allows the tool to be removed

from and returned to its holster or pouch using just one hand. Safety is improved by allowing the user to maintain the critical "three points of contact" when working at height.

RETAIN CONTROL

Our modular approach means you can configure the tools/holsters based on a user's personal preference, while providing a system that meets your safety standards.

See what the most comprehensive tool drop prevention solution in the industry can do for your team's safety and productivity by contacting:

Bob Schnuck | Power Generation & Utility Market Manager 413-519-3380 | robert.a.schnuck@snapon.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 downtime. 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.

About BitFlow

BitFlow has been developing reliable, high-performance Frame Grabbers for use in imaging applications since 1993. BitFlow is the leader in Camera Link frame grabbers, building the fastest frame grabbers in the world, with the highest camera/frame grabber densities, triggering performance, and price. With thousands of boards installed throughout the world, into hundreds of imaging applications, BitFlow is dedicated to using this knowledge and experience to provide customers with the best possible image acquisition and application development solutions. BitFlow, located in Woburn, MA, has distributors and resellers located all over the world including Asia, the Americas, and Europe. Visit our website at **http://www.bitflow.com.**



Ad Index

Company	Pg.	Website
Brandon Industries	3	www.brandonindustries.com
Brex Lighting	7	www.brexlighting.com
Buccaneer Rope	8	www.bucrope.com
Conduit Repair	1	www.conduitrepair.com
Cretex Seals	ВС	www.cretexseals.com
Emars	12	www.emarsinc.com
Greaves	5	www.greaves-usa.com
Krenz Vent	2	www.krenzvent.com
Randl Inc	IFC	www.randl-inc.com
SP Products	11	www.spproducts.com
Snap On	9	www.snapon.com
Yale Cordage	IBC	www.yalecordage.com



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



Time

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





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 ¾" 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



