

NEWSBYTES

INNOVATIVE PRODUCTS PROCESSES AND APPLICATIONS FOR INDUSTRY

Hoffman Enclosure Removes Heat Build-Up, Ensures Superior Performance

Specifically designed to meet the needs of electronic controls sensitive to high temperatures and ideal for applications with a large heat load, the Hoffman WeatherFlo 3R enclosure features a filtered vent system and an integral fan designed to remove hot spots and heat build-up.



Ideal for meeting today's energy- and cost-efficient drive requirements, the Hoffman WeatherFlo 3R enclosure features:

- 16- and 14-gauge plated steel construction
- RAL 9003 white polyester powder finish
- Top vent solar shield, ensuring superior solar performance

Available in six standard sizes and fan configurations to house 3- to 100-horsepower drives, this off-the-shelf drive enclosure reduces project time by allowing integrators to spend less time on enclosure design and focus their attention on other system details.

To learn more about the right enclosure for your application, contact the sales engineers at McNaughton-McKay.

Special Automation Fair 2006 Issue

Welcome to the Automation Fair 2006 issue of Newsbytes. We have partnered with some of the many vendors who will be showcased at the fair in Baltimore and have included a sampling of their latest products in this issue. You won't want to miss this annual event sponsored by Rockwell Automation which is scheduled for October 25 and 26 in Baltimore, Maryland. The activities and displays are critical for companies looking to leverage the full potential of their manufacturing operations for a global, competitive advantage.

Whether it's your power, control, or information systems that give you an advantage, global manufacturing leaders know that optimized production is the key to increased profitability. At Automation Fair 2006, you will learn how to:

- Improve your products' time to market.
- Increase your company's profitability.
- Develop asset-management and -optimization strategies.
- Manage manufacturing business risk.



Professionals in all levels of your organization will benefit from the multitude of forums and venues at Automation Fair. More than 50 technical sessions and 21 hands-on labs will cover a wide range of advanced automation topics. All are designed to make your business more productive and profitable. You'll also have the opportunity to attend special industry forums hosted by experts in the life sciences, food and beverage, marine, and water/wastewater industries.

Don't miss this premier industry event. For more information about Automation Fair 2006 or available travel packages, please visit www.mc-mc.com/mc-mc/uploads/AFair.htm or contact a representative listed below.

Carolina's Group - Charlotte, Gastonia, Greenville, & Spartanburg
Becky Earnhardt - (800) 922-9789 – earnarb@mc-mc.com

Coastal Group - Charleston, New Bern, Savannah, & Wilmington
Doug Nixon - (843) 856-7700 – nixond@mc-mc.com

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Michigan Group - All Locations
Rhonda Osterman - (248) 414-2104 – ostermar@mc-mc.com

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Lee Ann Ireland - (419) 422-2984 – irelandl@mc-mc.com

Space is limited, so please make your reservations today.





Hoffman T4 Indoor/Outdoor Air Conditioners

Your electronic controls and equipment are too important (and too expensive) to keep inside sealed enclosures, unprotected from heat. Hoffman's Type 4 indoor/outdoor T4 air conditioners protect your investment from failure with high-efficiency positive cooling for wall-mount and free-standing enclosures.

System failure can be frightfully expensive, not only in terms of the replacement of controls, but also in the loss of production. Hoffman's closed-loop T4 air conditioners provide a proactive, cost-effective thermal-management solution for a variety of equipment types. The air conditioners come in six models varying in footprint and capacity from the 15.75 x 7.50 x 6.30 in., 800-BTU unit for wall-mount enclosures or those with narrow side walls, to the 52.85 x 20.85 x 13.00 in., 20,000-BTU model. These six models can support virtually all enclosures, from small, densely populated ones, to large ones that house drives and motors.



In addition, all models come with the following features:

- UL/cUL Type 4 rating
- UL50-rated separation of external ambient airflow from the sealed cabinet interior
- Head pressure control for low ambient operation
- Compressor heater
- Coated condenser coil
- Thermostat

Don't gamble on your electronic controls and equipment; ensure the safety of your investment with Hoffman's T4 air conditioners. For more information on these innovative thermal-management devices, contact a McNaughton-McKay sales engineer.



Panduit Arc Flash Hazard Labels Promote Safety and Compliance

Panduit arc flash hazard labels help to ensure worker safety and employer compliance with Article 110.16 of the 2002 National Electric Code. The article calls for clearly visible labeling to warn of the potential for electric arc flash hazards.

Features and benefits of Panduit arc flash hazard labels include:

- Large warning header, universal hazard symbols, and clear, concise hazard description to provide employees with the highest degree of safety.
- A range of sizes to fit specific applications.
- Durable polyester (PPS) or vinyl (PVS) construction designed to accept handwriting in marker or pen.
- An aggressive adhesive designed to withstand UV exposure, outdoor use, water, and abrasion.

Pre-printed adhesive arc flash hazard labels are available in both a standard/required format and a detailed/recommended format that includes a print-on area.

Panduit also offers the TDP43M thermal transfer desktop printer, a 300-dpi printer that comes with Panduit Easy-Mark labeling software, black ribbon, 120-VAC adapter, power cords, manual, and quick-start card.

Pan-Mark labeling software for Windows formats custom arc flash signs on any standard laser/ink-jet printer. The software is compatible with Windows 95, 98, Me, 2000, NT 4.X, and XP.

Panduit also offers continuous tapes in both orange and white. White adhesive polyolefin component labels for laser/ink-jet desktop printers are available on 8 1/2 by 11-in. sheets. Labels are available in three sizes.

The sales engineers at McNaughton-McKay can help you select the Panduit arc flash hazard labels in the material and sizes best suited to your application.



Versatility Improvements in ProTek DH Cabinets



Hoffman's ProTek Type 12/4 wall-mount cabinets have long been popular for their safety and security features as well as their ease of use. Now the product line is even more versatile with the addition of ProTek DH sleek and attractive double-hinged cabinet models with a three-part design for easier front and rear equipment access.

The UL 508-listed ProTek DH Type 12 or Type 4 cabinets are perfect for applications outside of control areas to protect multiple pieces of 19-in. network equipment from contaminants such as dirt, water, and dust. Each cabinet-door opening has a flange around it that creates a gutter to prevent the entrance of fluids and other contaminants. The doors also have foam-in-place seamless gaskets that seal against outdoor air infiltration and are non-absorbing and chemical-resistant.

Besides ensuring the safety of your critical components, ProTek DH cabinets also keep them secure. For indoor applications, choose between a convenient locking wing knob or a tamper-resistant, quarter-turn padlock latch, which is also ideal for outdoor applications. Type 12 models are available with either a solid door or a window door made of scratch-resistant safety glass for easy equipment monitoring. For added security, Type 4 models come with a solid door.

The versatility of ProTek DH cabinets extends to mounting. The cabinets come fully assembled and ready to mount to a wall or a pole with the optional pole-mounting kit. Because there are no external side latches and no need for

unlatching clearance, they can be mounted latchside against a wall to save space. What's more, they can be left- or right-hinge mounted. For even more options, each cabinet comes with a set of EIA-spaced 10-32 tapped rack angles, which are adjustable front to back in the center section of the cabinet.

As if safety, security, and versatility weren't enough, ProTek DH cabinets are easy to install, monitor, inspect, and adjust, and they accommodate network upgrades.

To learn more about these sturdy, practical cabinets, contact the sales engineers at McNaughton-McKay.



Allen-Bradley GuardPLC Handheld Terminal Offers Security and More

Allen-Bradley's GuardPLC handheld terminal provides increased security and reduced downtime to allow for high productivity on the factory floor. The GuardPLC handheld terminal is compatible with all Allen-Bradley



GuardPLCs and distributed I/O blocks, making it easy to integrate into an existing network. The ability to connect to any GuardPLC device on the Ethernet network allows maintenance workers to program and configure without the need to carry a personal computer to the plant floor. Programs are stored on the terminal's on-board flash memory or on a removable multimedia memory card.

The handheld terminal has the capability to hold GuardPLC application programs and distributed I/O configuration data used for any project. The programs and data are password-protected to ensure that the correct programming is used and to keep the information safe from outside tampering and accidental program changes.

On-floor programming or reconfiguring of devices reduces productivity, but these tasks must be done. Using the handheld terminal will lessen that downtime. Simply plug the terminal into the device and reload the stored program. When replacement of a GuardPLC or distributed I/O block is necessary, the GuardPLC handheld terminal makes it quick and easy. Changing various controller parameters (such as the IP address, safety requirement specification, or date and time) or even rebooting a controller after a safety-stop condition can also be handled quickly and easily by the handheld terminal.

Downtime due to on-floor programming is going to happen, but it can be reduced. Contact the sales engineers at McNaughton-McKay for more information on the Allen-Bradley GuardPLC handheld terminal.



Panduit's Easy-Mark Software Handles All Your Labeling Needs



Not only does Easy-Mark labeling software from Panduit save time and money, it also boasts market-specific application tools and offers increased ease and flexibility for all your labeling needs.

Creating labels for network components, panel building, construction, and maintenance is up to 75% more efficient with Easy-Mark labeling software. You can format labels for your specific application and generate standards compliance legends automatically. Furthermore, many language options are available for both instructions and user interface, including English, French, German, Italian, and Spanish.

The software features a Market and Application Selection Wizard, which guides the user through the process. First, select the specific market, then select the labeling application, (for example, wire/cable, faceplate, pathway, patch panel, terminal block, safety sign, heat shrink, or pipe marking). Select the details of the application (such as printer type, label type, marker type, and the wire/cable size), then select the method of data input (for example, text/table, serialization, or data import). Enter the data. Easy-Mark automatically selects and populates the labels.

The program lets the user see labels on-screen exactly as they will appear when printed. This "What You See Is What You Get" (WYSIWYG) technology improves productivity while reducing errors.

Panduit's Easy-Mark software has many advanced features.

- Alpha and numeric serialization makes it easy to create incremented legend lists.
- Data file import from Excel and comma-separated value (.csv) files reduces time and error.
- Image library offers over 100 standard symbols for electrical and data communications applications and lets you import symbols in .jpg, .bmp, or .gif format.
- Pre-loaded Panduit label formats include thermal transfer, dot matrix, laser, and ink-jet, as well as the Ultimate ID network labeling system.
- Quick text entry allows the user to create individual labels or an entire range of labels.
- Revisions and enhancements, including additional markets and application tools, will be available on the Panduit website.

System requirements include a processor with 64MB of hard drive space and 40MB of RAM, Windows 98 or 2000, NT 4.X or XP, mouse or compatible pointing device, and a CD-ROM drive.

Contact the sales engineers at McNaughton-McKay to find out more about how to save time and money with Panduit Easy-Mark labeling software.



Panduit CAD-Connect Labeling Software Streamlines Processes

Panduit's CAD-Connect labeling software lets you generate labels quickly and easily within CAD programs such as AutoCAD or Visio, eliminating the steps and time spent manually copying software identifiers into labeling software.

CAD-Connect combines the power of an innovative wizard interview process and Panduit Easy-Mark labeling software to capture and organize identifiers from electronic CAD files to automatically create and print labels. Furthermore, the system exports to alternative formats, such as Excel or .csv text files, thus capturing CAD data for future use and documentation.

Here's how it works. Launch CAD-Connect from within AutoCAD or Visio. Select the label format from the drop-down list (for example, dot matrix, laser, laser/ink-jet, or thermal). Select and organize the identifiers, which the software automatically locates on the current drawing, in the desired order for printing. Finally, select the output format (Easy-Mark labeling software version 3.0, Excel, or .csv text file), and let the software auto-populate the identifiers. It's that easy.

System requirements include a processor with 64MB of hard drive space and 50MB of RAM, Windows 98 or 2000, NT 4.X or XP, a mouse or compatible pointing device, and a CD-ROM drive.

Contact the sales engineers at McNaughton-McKay to find out more about how Panduit CAD-Connect labeling software can streamline your operations and save you time and money.



Panduit PanTher LS8 Provides Options

Panduit's PanTher LS8 hand-held thermal transfer printer offers a range of high-quality label-printing and cutting options in one compact device. The PanTher LS8's revolutionary cut-to-length functionality eliminates label waste and trimming labor, and features a partial-cutting option to print tear-apart strips of labels for quick application.

The PanTher LS8 accommodates a variety of label cassettes for printing self-laminating labels, heat-shrink tubing, die-cut component labels, and continuous tape. All cassettes contain an integrated memory device that provides automatic formatting and recall of the last legend used and indicates the number of labels left in the cassette. The label cassettes contain both label material and ribbon to make changing labels fast and easy.

The printed labels can be used on many different materials for electrical and network applications, such as wires or cables, safety components, and facility identification items. There's no need to worry about the labels becoming unstuck, as they are manufactured to withstand harsh operating conditions including abrasion, chemicals, and exposure to extreme temperatures.

Creating and editing label text is easy using the PanTher LS8's large graphic display with backlight. You can view and print labels directly from the preview screen and even customize labels with the following advanced features:

- Alpha and numeric serialization
- Bar codes
- Symbols
- Data lists
- Date and time stamp
- Lines
- Frames

For even more versatility, the PanTher LS8 is USB-compatible for importing data and system upgrades, as well as printing labels from a wireless laptop or desktop computer. The LS8-PCKIT includes a USB cable and CD-ROM



with software and an operator's manual. In addition, USB compatibility allows you to:

- Download and print labels from Microsoft Excel.
 - Archive label files on a computer for later use or sharing.
 - Print labels directly from Panduit Easy-Mark labeling software.

If you're looking for an easy-to-use, portable, and high-quality label printer, Panduit's PanTher LS8 is the obvious choice. Contact the sales engineers at McNaughton-McKay for more information about this versatile device.



Panduit Offers Innovative Wiring and Networking Solutions

Panduit, a global leader in innovative wiring and networking solutions, offers the complete package for high-quality, reliable identification at the lowest installed cost. Labels, labeling software, and printers are among the Panduit products that can help your business.

Labels

Panduit helps you create a variety of high-quality custom labels for marking and identifying wires, cables, and components in an assortment of sizes and materials that can withstand temperature extremes and UV, weather, and chemical exposure. On-demand printable labels are available for laser/ink-jet, thermal transfer, and dot matrix printing on Panduit or other commercial printers.



Labeling software

Panduit labeling software helps you identify everything from control panels to wires, cables, terminal blocks, facility piping, and even data communication.



Printers

Panduit printers can be used in any location, for any type of application. Hand-held and portable printers are flexible, durable, and rugged. Desktop printers enable fast, high-quality label production when used with Panduit labeling software.



Lockout/tagout devices

Panduit safety and facility identification products help ensure employee safety and employer compliance with safety standards.



Pre-printed and write-on markers

Panduit offers a variety of pre-printed and write-on marker solutions in multiple formats for fast, convenient identification of wires and cables, including:

- Pocket-sized marker books for electrical and network components.
- Marker cards in a variety of legends and combination packs.
- Dispensers.
- Non-adhesive clip-ons.



Ask the sales engineers at McNaughton-McKay for details. Let them help you select the Panduit solution for you.

Simplify Cabling, Ease Modifications with the Sola/Hevi-Duty SCP-X Power Supply

With a heavy-duty die-cast aluminum housing, the standalone SCP-X power supply from Sola/Hevi-Duty can be directly machine-mounted in any orientation, reducing end-user costs by eliminating the need for a separate cabinet and simplifying I/O device cabling. Reduced cabling translates into lower capital costs and, if system requirements change in the future, also allows for easier modification.



In addition to supplying resistance to 3 g shock, the compact (2.5 lbs) SCP-X delivers:

- 24-volt DC power from an IP67-compliant package resistant to dust, water, and other contaminants.
- A metal outer case that easily withstands physical abuse and efficiently dissipates heat.
- Consistent power in temperatures ranging from -40°C to 60°C.

Multiple devices can be operated from a single unit and can maintain the Class 2 output power rating as long as continuous power consumption does not exceed 94 watts (3.8 amps at 24 VDC). Equipped with standard mini-DIN connections, the Sola/Hevi-Duty SCP-X power supply is ideally suited for use with:

- Sensors
- Relays
- Hydraulic and pneumatic actuators
- Valves
- Communications devices

And, a variety of adapters are available to easily connect the power supply to other connector styles.

Contact a McNaughton-McKay sales engineer to learn more about the simple, cost-effective equipment protection of Sola/Hevi-Duty's SCP-X power supply.



FieldPort I/O Modules Feature HART Protocol and Ethernet Connectivity

Enjoy the benefits of traditional in-rack analog+HART I/O for your legacy control systems with FieldPort by Spectrum Controls. FieldPort enables you to use the power of your existing HART instruments by obtaining real-time data for use in your control system, while operating an enterprise asset-management network. And, this is accomplished without any additional wiring.



Integration is easy when used with Connects, Spectrum Controls' connectivity solution for device-management tools. Connects gives FieldPort the same functionality as Spectrum's field-proven ControlLogix and CompactLogix HART I/O products. No special programming tools or protocol knowledge are necessary.

FieldPort lets you benefit from using HART data in the system, while reducing the total cost of ownership through enterprise asset management.

Contact the sales engineers at McNaughton-McKay for details on how FieldPort can help you combine the power of your HART instrumentation with your legacy controllers.



Thomas & Betts Ty-Duct Wiring Duct

Thomas & Betts offers a premium-quality wiring duct for controlling cables in point-to-point wiring. This system is ideal for electrical enclosures, machine building, and data/communications panels and closets.

Ty-Duct Wiring Duct can be installed more easily, with less force and more speed, than other wiring duct products due to its two-point contact design and triple restricted slots, which also provide better wire retention in the duct.

A universal mounting clip serves multiple purposes: either the divider can be snapped into the base, or two slot sizes on the button will accommodate nylon cable ties or hook and loop fasteners. Embossed holes allow installation of combo buttons after the duct has been riveted to the panel. The protective film on the cover of the duct still allows marking or labeling with temporary ink. The cover is also grooved to provide a better grip for installation and removal. For greater flexibility-of-use, the system is available in solid, wide slot, narrow slot, and round hole types. Tooling and accessories are also available.



Ty-Duct Wiring Duct is UL recognized for continuous use at temperatures ranging from -40°F to 140°F and has a UL 94 flammability rating of V-0. The system conforms to NFPA 79-2002, Section 14.3.1 requirements for flame-retardant material, is CE compliant, and CSA and RoHs certified.

Contact your McNaughton-McKay sales engineer to select from the wide range of products available from Thomas & Betts.



Sola/Hevi-Duty ICE Transformers and W Fusing Options Offer Design Flexibility



Designed to match international voltage combinations, the ICE transformer series and W factory-installed fusing options from Sola/Hevi-Duty allow designers more flexibility and help reduce the time investment and cost of fuse installation. The same type of unit can be used in China, Europe, and North America. The ICE transformers' versatility reduces expense and inventory without compromising designers' options. The W fusing option allows customers easy compliance with UL standards and National Electric Code requirements for proper primary fusing on the input of all control transformers.

With IP20 touch-proof terminations, copper windings, a solid epoxy encapsulation for more efficient heat dissipation (and a cooler operation), and a 130°C insulation epoxy system to prevent airborne contaminants from getting into windings and electrical-grade steel, the ICE transformers are the top choice for versatility and reliability.

With the ability to handle 50/60-Hz operations with output voltages of 24, 120, and 240 volts, the ICE series features a standardized primary coil for 750 to 5000 VA with 80°C rise, and a 10 + 2-year warranty. The ICE series is also cULus listed and meets or exceeds NEMA, ANSI, and IEC electrical requirements.

With a range of 50 to 1000 VA, the W fusing solution also includes optional alternate secondary fusing (type 3AG glass) to prevent nuisance tripping, allowing for larger primary fuse sizes.

With a two-pole primary Class CC-type fuse holder and a secondary midget-type fuse holder in one preassembled unit, the W fusing solution also features copper interleaved windings, electrical-grade steel laminations, a 105°C insulation system, and a 10 + 2-year warranty.

To learn more about these exciting Sola/Hevi-Duty products, contact the sales engineers at McNaughton-McKay.



Alpha Right-Angle Gearheads: Smaller Sizes, Minimal Torsional Backlash



Alpha Gear Drives, Inc. supplies the optimal right-angle gearhead for every application—worm, bevel, or hypoid. Now Alpha right-angle gearheads have been optimized for precision machinery in smaller sizes and with minimal torsional backlash. Alpha Gear continues as an industry leader, making the machines on which its products run faster, more efficient, and more productive.



The HG+ hollow-shaft gearhead has up to 200% more torque and 100% higher speeds than comparable products, offering ideal conditions for maximum output. Reliable and precise, the low torsional backlash and high torsional rigidity of the HG+ ensure the positioning accuracy of your drives and the precision of your machines, even in highly dynamic operations with up to 50,000 cycles per hour. The integrated thermal expansion compensation is a standard feature that helps the HG+ maximize the service life of your servo motor in high-speed continuous operations.

The TK+ features innovative hypoid technology and a novel hollow-shaft flange output that makes new design solutions possible. The TK+ offers high efficiency and easy and reliable mounting to any servo motor. It has considerably more torque and less noise than bevel gearheads and is ideal for all servo applications, such as machine tools, automation, and packaging and printing. The TK+ is designed for cyclic and continuous operation and is available in five sizes. With innovative performance characteristics and impressive application flexibility, the TK+ is a high-precision, multi-purpose product.

The SK+ with innovative hypoid technology offers many of the features of the TK+, such as high efficiency and easy and reliable mounting to any servo motor. Ideal for all servo applications and designed for cyclic and continuous operation, the SK+ puts an end to compromises of high-speed coaxial drives and slow-speed right-angle drives, making high productivity in a small place a reality. The SK+ is also available in five sizes.

For assistance in selecting the Alpha Gear right-angle gearhead for your application, contact your McNaughton-McKay sales engineer.



Thomas & Betts Liquidtight Conduit Connectors: Strong, Corrosion-Resistant

Thomas & Betts stainless steel liquidtight conduit connectors give manufacturers a superior solution when connecting metallic-cored liquidtight conduit to a box or other fitting in corrosive environments. Conventional metallic fittings are strong and durable, but they corrode and require frequent replacement. Non-metallic fittings are corrosion-resistant, but not as strong as metallic fittings, and can't withstand extreme temperatures or ultraviolet exposure. Thomas & Betts fittings are made of 304 stainless steel and offer the corrosion resistance of non-metallic fittings with the strength and durability of metallic fittings.



Available in straight, 45°, and 90° configurations, and in sizes to fit conduit from $\frac{3}{8}$ in. to 2 in., the Thomas & Betts line has UL-listed ratings of 3, 3R, 4, and 4X.

Sealing ring gaskets (5262 Series) are also available. Made of Santoprene to ensure a superior seal, the gaskets include a stainless steel retaining ring to prevent elongation.

The fitting has applications for processing in many industries, from food and beverage to pharmaceutical, petrochemical, wastewater, and marine. Contact a sales engineer at McNaughton-McKay for details.

Maintain Compliance with Cooper Bussmann SCCR Software

Compliance with current UL and NEC codes is fundamental to enhancing workplace safety and reducing downtime, thereby increasing your bottom line. In the ever-changing regulatory environment, Cooper Bussmann can help you stay in compliance with the innovative online short-circuit current rating (SCCR) compliance software and database.

Underwriters Laboratories now requires that all electrical panels and assemblies manufactured to Standard 508A be marked with their SCCR. Article 409 of the 2005 NEC calls for industrial control panels to be marked with an assembly SCCR. The Cooper Bussmann SCCR software is the solution, as it is geared to industrial panels, equipment, and assemblies.

Getting the assembly SCCR correct can be a challenge, but Cooper Bussmann's compliance software guides you through entering your panel's components for supply, feeder, sub-feeder, and branch circuits. Based upon the component types or part numbers you enter, the

software determines the assembly SCCR per UL508A Supplement SB. A custom device option allows you to enter specialized information not usually encountered in most assembly components.

The process is automatic—and simple. You use your assembly parts list, and the database includes more than 100,000 line-item part numbers with their component SCCR. The database is available 24/7-365 with a one-year subscription. Use it as often as you want; the information is always current, as the database is regularly updated with new part numbers, their component SCCRs, and any changes to codes and agency standards to ensure that you get the latest in assembly SCCR evaluation.

If you find that your calculated short-circuit current rating is too low for your application, Cooper Bussmann Services offers SCCR design engineering assistance to raise your rating to the required level.

Cooper Bussmann's online SCCR compliance software can help you avoid costly shutdowns and delays caused by non-compliance issues. Stay in compliance and focused on what you do best. Contact your McNaughton-McKay sales engineer for more information.



Belden's DataTuff Category 5e and 6 Ethernet Cable Line Ensures Reliability and Safety

Belden, a pioneer in production processes such as statistical process control (SPC), and the first major designer and manufacturer of cable products to achieve ISO 9000 registration, extends its commitment to quality in its industrial Ethernet cables. Belden understands the rigors of the industrial environment, and the industrial Ethernet cables are made to withstand any condition: oil, sunlight, gasoline, temperature variations, abrasion, crushing, and the presence of electromagnetic interference (EMI) or radio frequency interference (RFI).

DataTuff Cables with Patented Bonded-Pair Technology

Many versions of Belden's DataTuff Category 6 and 5e copper cables feature a patented bonded-pair technology that affixes the conductor insulation of the cable pairs along their longitudinal axes to ensure that no gaps can develop between conductor pairs. As a result, the conductor-to-conductor spacing is always uniform. The DataTuff cables maintain a remarkable level of what Belden calls "Installable Performance," even after being subjected to the bending, pulling, and twisting that occur during installation.

Furthermore, in tests, Belden's bonded-pair cables showed little change in return loss (RL) performance. RL occurs when the transmitted signal encounters impedance mismatch, as can happen when unbonded pairs gap and portions of the signal are reflected back toward the receiver. Network efficiency can be significantly affected as a result of poor RL values, so it is noteworthy that in the same tests unbonded-pair cable showed an RL degradation of at least 12 dB—more than five times worse than its before-installation value.

TrayOptic Cables

Belden TrayOptic cables are designed for indoor/outdoor industrial applications and have been upgraded to include a water-blocking agent. The TrayOptic series carries the IEEE 383 flame approval. All Belden TrayOptic products use laser-certified fiber to handle gigabit Ethernet light sources and any expanded bandwidth requirements. TrayOptic cables are also available with 50-micron or single-mode fiber upon request.



Belden Ethernet cables ensure high performance, reliability, and safety. Look to Belden's DataTuff cables and TrayOptic fiber-optic industrial Ethernet cables for accurate and reliable data transmission, uninterrupted control functions and production time, and enhanced safety. The sales engineers at McNaughton-McKay can help you select the Belden Ethernet cable for your network. Contact them today.



Belden VFD Cables Stand Up to Harsh Conditions

Belden's variable-frequency drive (VFD) cable series is rugged enough to deliver superior electrical performance, even in demanding industrial environments. High-voltage spikes, corona discharge, high noise levels, and adverse conditions typically damage VFD cable, as well as motors, bearings, drives, and related equipment. This damage can lead to failure of the entire drive system and result in costly production downtime.

Available in various standard lengths, in armored versions, and in a wider range of gauges, the Belden series of 1000V UL flexible motor supply cables gives manufacturers more options for specific applications.

Features include:

- Oversized industrial-grade XLPE insulation, providing more stable electrical performance than PVC and the lowest capacitance available in a VFD cable
- High-strand tinned copper circuit conductors numbered for ease of identification, providing more flexibility for ease of installation and better vibration resistance

- Industrial-grade PVC jacket, resistant to sunlight and oil
- Certification to numerous safety standards

Belden's classic line of VFD cables with foil/braid shield is offered in 16-2 AWG, and continues to be the highest-performing solution on the market. The dual shielding provides the lowest resistance ground path, which improves common-mode current containment. A full-sized insulated green/yellow ground wire and a full-sized shield drain wire are included for ease of termination and installation. The 85% braid coverage optimizes EMI low-frequency noise protection, while the 100% aluminum/Mylar tape offers RFI high-frequency noise protection. Cables are round and smooth for proper sealing of glands and molding applications.

Belden's large AWG VFD cable with symmetrical ground design combines the benefits of the classic VFD cables with features for use on larger, more powerful AC motor drives. The shielding provides a low-resistance ground path, which improves common-mode current containment. The spirally applied dual copper tapes provide improved flexibility and EMI/RFI noise protection. Three symmetrical bare ground wires provide a balanced ground system, which reduces AC motor shaft voltage, reducing the likelihood of premature motor bearing or motor insulation failure.



Belden VFD cable has been tested and approved for use by Rockwell Automation for the following AC drives: PowerFlex Series, Series 1305, Series 1336 Plus and Plus II, Series 1336 Impact, and Series 1336 Force Field-Oriented Control. The Belden VFD cable is appropriate for many other drives as well.

The sales engineers at McNaughton-McKay can help you determine which Belden VFD cable is right for your application.





WebPort from Spectrum Controls Improves Data Management

Access and manage your PLC system data via your enterprise network with Spectrum Controls' WebPort, powered by eWON. WebPort is a flexible communications solution allowing you the versatility to manage your data online.

WebPort functions as a transparent, configurable, or programmable gateway. Also, WebPort is a robust IP router that can notify you of alarms and allow remote maintenance. Finally, WebPort can visualize critical system data via a web browser as a remote e-SCADA solution.

WebPort features a variety of serial interfaces as well as a built-in scripting engine allowing communication with most serial devices. Connectivity to a LAN may be achieved using Ethernet or an analog/GSM modem connection.



WebPort enables you to:

- Add remote management capability to your PLC from anywhere, at any time.
- Be notified of events and incidents.
- Reduce the number of emergencies.
- Be proactive and set unmatched standards of quality of service.
- Prepare better with accurate diagnostic and first-hand information.
- Follow up on production trends and collect statistical data for analysis.
- Build rich SCADA environments that may be viewed using any web browser.

The sales engineers at McNaughton-McKay can provide details on how WebPort can benefit your application.

Allen-Bradley's CompactLogix 1768-L43: Powerful, Versatile, Economical

With its improved performance, added memory and network capacity, modularity, and Kinetix Integrated Motion capability, Allen-Bradley's CompactLogix 1768-L43 controller is ideal for all your system-linked small and mid-sized applications. In addition, the CompactLogix 1768-L43 is extremely flexible: its platform uses the same RSLogix 5000 programming software as other Logix controllers so you can move from one application to another without additional program development or training.

Additional features of the CompactLogix 1768-L43 controller include:

- Stored energy from the power supply to maintain power long enough to back up the program to flash, eliminating the need for a battery.
- Seamless connectivity across the NetLinx Open Network Architecture for advanced real-time control and information capabilities.

- A wide range of communication options, with analog, digital, and specialty I/O.
- 2 MB of memory.
- 38 embedded motion instructions with pre-loaded motion parameters.

For added ease of use, the CompactLogix 1768-L43 controller also contains the SERCOS (serial real-time communication system) interface motion module, which has four real axes of control, two feedback axes, and six virtual axes, perfect for smaller applications that need a lower axis count. A controller/drive interface, the SERCOS uses noise-immune fiber-optic cables, and this single fiber-optic ring serves as the only interface between the CompactLogix 1768-L43 and a Kinetix servo drive such as the Kinetix 6000. This simple system replaces costly command and feedback wiring, reducing both installation time and wiring costs without sacrificing performance.

Increase your profitability and time savings with the CompactLogix 1768-L43 controller from Allen-Bradley. For more information on this flexible and economical device, contact the sales engineers at McNaughton-McKay.



MotionFlex from Amphenol Sine Systems: Durable and Versatile

Amphenol Sine Systems continuous-flex and flex-extension motion-control cables provide effective motor power and feedback interconnect to moving axis applications. These MotionFlex products are ideal for the Allen-Bradley Kinetix Ultra 3000 and Ultra 5000 motion-control power and signal applications.

The cables provide superior construction while offering a wide variety of interconnect options for easy installation. Amphenol Sine Systems high-flex cables have excellent minimum-bend radius specifications and long flex life in linear (that is, one-directional) flex applications. Plus, these motion-control cable products offer best-in-class performance in resistance to acids and solvents, while providing superior toughness, flame resistance, flexibility, and weather resistance.

Amphenol Sine Systems Ultimax and Ultimax Plus cables are constructed with thermoplastic elastomer jacket material that has the look and feel of rubber, but provides excellent resistance to most industrial oils, chemicals, and fluids. These cables are available in bulk as well as turnkey cable assemblies. Standard lengths are available from stock and ready for immediate delivery; custom lengths and designs can be made to meet specific application requirements.

Additional features and benefits of these cables include:

- Braided cable shield.
- Pre-molded hard PVC encapsulated conductor to contact termination points.
- Overmolded back shells bonded to connector and cable jacket.
- Flexible strain relief molded to cable jacket.
- Excellent noise immunity.
- Superior pull strength and resistance to cable separation from the connector.
- Use of double-ended, in-line connection assemblies, coupled with non-flex assemblies, allowing for lower cost.



Ask the sales engineers at McNaughton- McKay for details. Let them help you select the MotionFlex product for your application.



Cooper Crouse-Hinds Provides Complete Selection of Alarms and Signals

Cooper Crouse-Hinds offers a full line of manual, visual, and audible alarms, signals, and loudspeakers for use in explosive atmospheres, such as harsh industrial and commercial areas. The MEDC Series features a wide range of products, including horns, speakers, and manual alarm call points. The products IEC rating ensures overseas compatibility and compliance with the "Zone" classification of hazardous areas that is increasingly employed in North America, especially in Canada.

Cooper Crouse-Hinds has the broadest line of harsh and hazardous signaling, alarm, and communication products

available in both IEC and NEC designs and certifications. Its line of hazardous area call points (fire alarm or emergency notification devices) is unequalled by any other manufacturer of hazardous location signaling products.

With worldwide UL, cUL, ATEX, GOST, CSA, and CQST (Chinese) listings, Cooper Crouse-Hinds products offer many features, which include:

- Superior enclosure materials that provide unequalled ingress protection and corrosion resistance from the harshest conditions.
- A unique signaling capability that offers integral visual and audible signaling pre-wired for simultaneous output.
- A line of heat detectors for early indication of potential processing problems.

For additional information on Cooper Crouse-Hinds offerings to meet your alarm and signal requirements, contact a sales engineer at McNaughton-McKay.



Fluke Corporation Delivers Versatility in 1587 and 1577 Insulation Multimeters

The Fluke 1587 and 1577 insulation multimeters combine digital insulation-testing technology with all the qualities of full-featured true-RMS digital multimeters. Ideal for both preventative maintenance and troubleshooting jobs, these two compact, rugged, and easy-to-use measurement tools provide a variety of cost-effective solutions.



The versatile Fluke 1587 and 1577 insulation multimeters have Cat. 3 1000-volt and Cat. 4 600-volt designation and can handle AC/DC voltage and milliamps, DC millivolts, resistance, and continuity. They have a large display with bright backlight and a convenient auto power-off feature. Their insulation test voltages can be used for many applications, and they include auto-discharge of capacitive voltage.

The Fluke 1587 and 1577 insulation multimeters also include the following built-in safety features:

- Automatically prevented insulation testing when more than 30 volts are detected
- Strategically located probe test button to keep hands away from dangerous currents
- Prevention of residual voltage discharge when the test button on the probe is released
- Display-hold button to allow a user to focus on carefully placing testing probes rather than on viewing results

For job performance, the Fluke 1587 insulation multimeter offers several additional features, including minimum and maximum measurement, as well as measurement of frequency, capacitance, and temperature. It also can do diode testing and insulation test smoothing readings. Plus, with a low pass filter for

work on VSDs and lower insulation test voltages of 50, 100, and 250 volts, the 1587 can handle a range of applications.

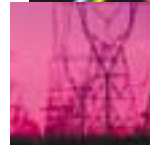
In addition to their integral features, the Fluke 1587 and 1577 insulation multimeters have many optional accessories.

To learn more about those and to determine which Fluke insulation multimeter meets your needs, contact the sales engineers at McNaughton-McKay.



Trans-Coil, Inc. Offers Effective Harmonic Filtering for Variable- Frequency Drives

HG7 drive-applied harmonic filters from Trans-Coil Inc. provide the solution for facilities where variable-frequency drives (VFD) or adjustable speed devices represent a significant portion of the load,



or when specifications call for limited harmonics. Filtering benefits any application using sensitive electronic equipment that is susceptible to harmonic distortion. Typical applications for the HG7 include printing, extruding, machining, pulp and paper, wastewater treatment, down-hole pumping, and HVAC, as well as uninterruptible power supplies, AC VFDs, 6-pulse rectifiers, and fans.

The HG7 drive-applied harmonic filter has been proven to be the most effective harmonic distortion mitigation technique available for drives. When applied at the drive, the HG7 provides a low-impedance path for the major harmonic currents demanded. This greatly reduces the amount of harmonic current flowing through the distribution system and results in improved power factor, lower RMS currents, lower harmonic current distortion, lower harmonic voltage distortion, and increased system capacity.

The HG7 contains high-quality capacitors designed, built, and tested for use in harmonically rich environments. Its performance matches all but the most expensive mitigation technologies currently available. Harmonic distortion at the input terminals is typically between 5% and 7% TDD. Voltage drop on the DC bus of a VFD is less than 2%. Nuisance tripping is eliminated and drive uptime is dramatically increased. The HG7 actually improves true power factor.

Multiple package options allow customers to choose the right filter configuration for the application to achieve the performance and monitoring results for their systems. The Standard Package will meet

the majority of application requirements. The Power Monitor Package is designed for sensitive applications that require monitoring on a full-time basis. The Component Package is ideal for integration into drive sections of other end products, and is perfect for the experienced drive integrator.

The HG7 helps customers reduce energy costs while ensuring their processes will continue to operate no matter the quality of the incoming power. Shipped ready to install, the HG7 fits easily into motor control centers.

The sales engineers at McNaughton-McKay can help you determine which HG7 from Trans-Coil, Inc. is right for your application. Contact them today.



Hirschmann OpenRail Switches Offer Absolute Flexibility

Hirschmann OpenRail switches are adaptable to the different requirements of industrial Ethernet, with tailor-made solutions configured to comply exactly with your requirements. Available from stock or customized to your specifications, OpenRail switches are versatile enough to provide the perfect solution whether the design is for a small, medium, or large network; for an entry-level or management-level application; or for such diverse applications as mining, automobile production, mechanical engineering, process, or transport automation.

OpenRail features updated versions of the Rail and MICE Series switches manufactured to customer specifications and suitable for almost any application. With 12 parameters and 1000 versions, Hirschmann's range of managed switches maximizes individuality—while still meeting all relevant industry standards.

Additional features of the OpenRail switches include:

- 100% flexibility due to its standard basic circuit board
- Optional 4 to 24-port switches
- Compact Rail switches (4 ports: 2 wide/24 ports: 4.5 wide)
- MICE switches with hot-swappable modularity and over 20 media modules available (RJ45, fiber MM/SM/LH, gigabit, real time, etc.)
- Common look and feel from a 4-port RAIL switch to a 24-port MICE switch to a 52-port MACH4000 switch/router
- Selectable uplink ports
- Remote diagnosis via signaling switches
- Time-saving commissioning using auto negotiation, auto polarity, auto crossing, and diagnosis displays
- Compatibility with PROFINET, EtherNet/IP, Modbus TCP, etc.

Two Software Packages Available

Hirschmann offers two software packages for its managed switches. The Enhanced software is ideal for standard industrial applications. It features a wide range of

management and diagnosis functions, is easy to configure, and offers a large number of filter functions. The Enhanced software supports fast redundancy mechanisms and security features, such as real-time applications.

The Professional software is suited for applications where great value is placed on uncompromising plant safety and the highest level of availability. It features a full range of Enhanced software functions, plus extended diagnosis and filter properties. The extensions in the security and redundancy areas leave nothing to be desired. (If you think you might eventually want the Professional software, you should purchase it instead of the Enhanced software—there is no upgrade



from Enhanced to Professional at a later date.) All the versatility of OpenRail is available at the same price and with the same delivery conditions as standard-series products. The sales engineers at McNaughton-McKay are available to discuss options and help you find the switches that meet your needs.



Surge-Trap from Ferraz Shawmut Offers Built-In Protection and More

With the expanded features of the Surge-Trap transient voltage surge suppressor (TVSS), Ferraz Shawmut remains your circuit-protection resource. The Surge-Trap provides a patented, thermally protected MOV that does not require additional overcurrent protection, due to the high interrupting rating.

Special features of the Surge-Trap include:

- Built-in thermal protection
- 100-kA interrupting rating
- DIN rail mount
- Fingersafe-IP20 package
- Built-in visual indicator
- Optional remote indication
- Box connectors
- Wire marker kits

Applications include AC/DC distribution, high-voltage power supplies, telecommunications equipment, motor controls and starter systems, PLC applications, power transfer equipment, HVAC controls, UPS systems, security systems, and medical equipment. In addition, the Surge-Trap has the approval of UL 1449, 2nd Edition Recognized Component File E210793, and meets the standards of ANSI/IEEE C62.41 and IEC 61643.

Contact your McNaughton-McKay sales engineer for more information about the high-performance Surge-Trap from Ferraz Shawmut.



Ferraz Shawmut Delivers Quality with its Drive Protection Module

Ferraz Shawmut's Drive Protection Module (DPM) provides the end user with the tools to meet NEC and UL standards and to protect the drive, even when the manufacturer has left these responsibilities to the installer. The DPM reduces total cost and time. With the standard DPM, your only additional expense is fuses, but without it you would also need a means for disconnecting, a surge protection device, terminal blocks, grounding terminals, an enclosure, wire, hardware, complete engineering design, and support documentation.

Benefits of the Ferraz Shawmut DPM include:

- The latest safety design and electrical code requirements: NEC 409, UL 508A, and NFPA 79 disconnect switch options
- High-speed branch circuit fusing (Type HSJ)
- Surge-Trap, the most advanced DIN rail transient-voltage surge suppression on the market, requiring no additional fuses
- High short-circuit current rating, up to 100 kA
- Pre-designed package, per major drive manufacturers
- IP20/touch-safe products for added safety when working on live equipment
- Availability on backplane only or with enclosure
- Easy installation
- Cost savings
- Available options for custom drive requirements
- Three to five-day lead-time for standard models

Special applications have special needs; available options include round- or square-body high-speed fuses, a flange-mounted handle, a control transformer, RFI/chokes/filters, auxiliary contacts, overload relays, motor heaters, line reactors, heat sinks, contactors, and fans.

Your McNaughton-McKay sales engineer is available to discuss your options. Call for details concerning the convenient and innovative Ferraz Shawmut DPM.



Ferraz Shawmut Provides Advanced Protection for Drives and Soft Starters

Ferraz Shawmut's Class J fuse (HSJ) is designed to fit the operating parameters of drives and soft starters and to protect internal-power electronic devices. Using the HSJ removes the risk of a short circuit resulting from the elimination of internal semiconductor fusing—a tactic that many manufacturers have tried in an effort to save money, but that actually costs money when expensive equipment must be replaced.



The HSJ is the only product available capable of providing NEC branch-circuit protection and power-electronics protection in one package. The HSJ provides semiconductor protection (very low I^2t). It mirrors the operating characteristics of electronic motor controllers and is capable of protecting overloads down to 135% of fuse rating.

HSJ fuses are easily coordinated with drives and soft starters. They can be used with ULTRSAFE fuse holders for finger-safe protection up to 60 A. The HSJ is available in a broad range of amp ratings, from 15 to 600 A, UL-listed to 248.8 (Class J).

With the HSJ, there is no need for additional protective devices. Contact your McNaughton-McKay sales engineer for more information.



Allen-Bradley's Powermonitor 1000 Delivers Energy-Management Solutions



With energy costs continuing to rise, it's becoming increasingly important for manufacturing operations professionals to find cost-effective and flexible energy-management solutions. The Allen-Bradley Powermonitor 1000 makes this easy. Ideal for basic power-monitoring applications, such as load profiling and cost allocation, the Powermonitor 1000 can also be scaled to provide advanced capabilities, including wiring diagnostics, historical trending, and advanced networking.

The Powermonitor 1000 accurately profiles a plant's energy consumption and utilization data while providing the information needed to better control and optimize energy costs. This innovative power-monitoring device can be used independently to replace analog meters for collecting and charting energy information, or it can be integrated into existing energy-monitoring systems, such as Rockwell Software RSPower, RSEnergy-Metrix, and RSView. For added versatility, the Powermonitor communicates with Allen-Bradley's PLC-5, SLC, and ControlLogix controllers.

Available in five compact models, the Powermonitor 1000 includes features to address a range of application requirements. The two transducer models, TR1 and TR2, provide effective power-factor monitoring and can measure voltage, current, and power-related tags. Two energy-monitor models, EM1 and EM2, measure consumption-related tags such as real, reactive, and apparent energy, allowing energy managers to identify where and how energy is being used, as well as low power factor caused by inductive loads. A third energy-monitor model, EM3, includes all the features and benefits of both the transducer and the energy-monitor models.

Choose Allen-Bradley's Powermonitor 1000 as the solution to your energy-management needs. For more information, contact the sales engineers at McNaughton-McKay.



Acme Electric Corporation Offers a Variety of Transformer Disconnects



With a range of voltage ratings, sizes, and applications, Acme Electric Corporation's series of transformer disconnects can meet virtually any power-distribution need. The three different series available include the TDMD, TDLT, and TDST Series disconnects, which are all UL and cUL listed and designed to meet or exceed all UL508A requirements. In addition, all three have a lockable Allen-Bradley 30-amp switch and are available with primary and secondary fusing.



Both the 8.69 x 9.38 x 8.38-in. TDMD and the 13 x 6.52 x 14.75-in. TDLT are in NEMA 1 enclosures with rotary-actuated switches. They also have 100,000-amp short-circuit protection and Class CC fusing on primary, with 13/32 x 1 1/2-in. fusing on secondary. Ideal for tight spaces, the models in the TDMD Series come with a power-on pilot light and can handle 250 to 1000 VA. The TDLT models are used primarily to power interior-panel lighting and can handle 250 to 3000 VA.

The 13.38 x 20 x 11.06-in. TDST is in a flange-mounted NEMA 12 enclosure with a blade-style switch. This transformer disconnect has a power-on pilot light, 200,000-amp short-circuit protection, and Class J fusing on primary, with Class RK-5 fusing on secondary. The models in this series can handle 1000 to 3000 VA.

To learn more about how your applications can benefit from Acme Electric Corporation's series of transformer disconnects, contact the sales engineers at McNaughton-McKay.



Acme Mitigating Transformers Eliminate Harmonics to Safeguard Equipment

Let Acme Electric Harmonic Mitigating Transformers help you reduce the risk of malfunction and damage to motors and equipment. These can occur as a result of harmonic currents generated by non-linear loads (typical of today's electronic devices) that are then fed back onto your distribution system.

Non-linear load (K-factor) transformers contain harmonics within the transformer and prevent them from going further. Harmonic mitigating transformers are a superior solution because they eliminate harmonics by pitting them against themselves. Yet they are suitable for K-factor loads.



How do they work? The harmonic mitigating transformers consist of a Delta primary and a Zig-Zag secondary. The Zig-Zag secondary causes a phase shift in the triplen harmonics, which results in a canceling effect. This prevents the triplen harmonic losses from being coupled back into the primary. The result is cleaner power, a cooler operation, and the most energy efficient means of dealing with the problem of harmonics.

Acme utilizes special winding techniques and foil conductors in both its K-factor and Harmonic Mitigating Transformers to

minimize the heating effects of harmonic currents. The foil conductor increases the dielectric strength of the insulation because one layer is only one turn. Foil also eliminates the effects of axial forces which can result in failure of wire-wound transformers.



In addition to higher efficiency, Acme Mitigating Transformers offer you reduced transformer heat and reduced voltage distortion due to 3rd-order harmonics.

Acme's Harmonic Mitigating Transformers are constructed of copper conductor and are available in sizes ranging from 30 through 225 KVA. Applications include financial, education, and TV broadcast facilities, office buildings, hospitals, and health care facilities. Contact the sales engineers at McNaughton-McKay to discuss how Acme Harmonic Mitigating Transformers can help your operation.





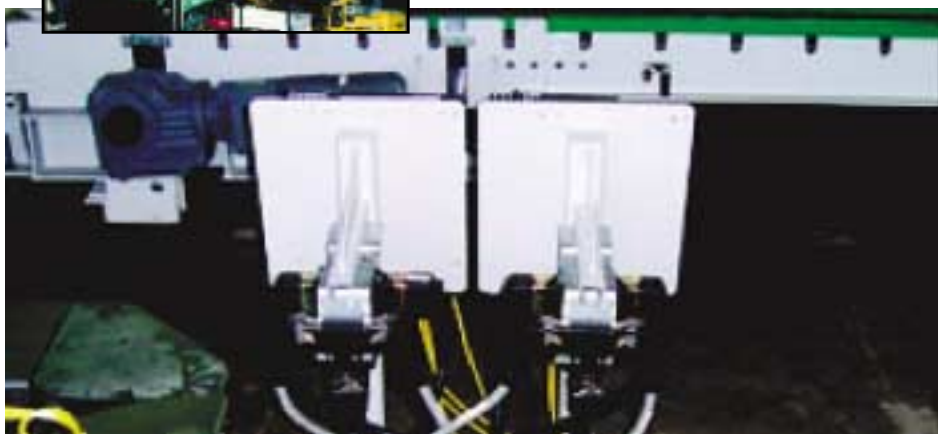
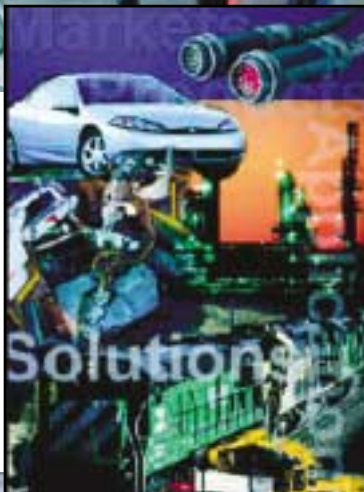
Amphenol ControlBoss and PowerBoss: Moving Outside the Box

By Dave Hughes
Amphenol Sine Systems
Wallingford, CT

Amphenol Sine Systems has done more than think outside the box. They are moving out of the box, moving controls out of the main control panel and onto the equipment where it is used, by means of the PowerBoss system of power distribution.

Amphenol Sine Systems Advantage Line ControlBoss Hybrid Control Interconnection System and the PowerBoss line offer a modular approach to the installation of variable-frequency drives (VFDs), motors, power, and control cable installations. The ControlBoss provides plug-and-play power and communication between the main control and VFD or other DeviceNet products. DeviceNet allows I/O blocks that mount directly to equipment, so that inputs and outputs are quickly connected by means of pre-made cables.

Rapidly evolving technology can lead to more expensive and more complex systems, but Amphenol's Advantage Line ControlBoss actually eliminates the need for complicated wiring. It "daisy chains" power and control circuits through a series of simple "T" formations, making a system that is easy to install and maintain. While at first glance, the cost of the PowerBoss line is higher than traditional hard wiring, its simplicity and streamlining of installation reduces



the commissioned cost, making the PowerBoss line both superior to other systems as well as cost-effective.

The simplicity of the system architecture means fast and easy installation at a low cost, reduced start-up time, and reduced downtime during routine maintenance. Plus, the ControlBoss features the same reliability associated with all of Amphenol's industrial products.

ControlBoss compiles DeviceNet and two additional circuits that can be used as additional power to the current DeviceNet node power or for a user-defined purpose. For example, the addi-

tional circuits could be used to refresh the DeviceNet node power and provide additional field input/output power. Another use is a dual-channel emergency stop, using the additional wires to connect back to a dual-channel safety relay or a safe PLC.

In addition, Amphenol's PowerBoss line incorporates three types of safety precautions: labeling the assembly "Not for interrupting current," providing a means of locking the connector together so it cannot be accidentally disconnected, and providing relay pins (short pins) for detection so that power can be removed before the voltage-carrying pins are disconnected.

Other features and benefits include:

- Two-stage over-molded cable assemblies
- Oil and chemical-resistant PVC jacket and molding compounds
- IP65 fluid resistance
- Uni-directional cable strain relief
- Vibration-resistant coupling system
- Gold-plated contacts
- Heavy duty aluminum die cast shell
- UL and CSA ratings per UL 1682

- Open wiring-rated, compliant to NEC Section 725.61 (0) (4) and NEC Section 336.10
- UL Type TC 600 Volt Class 1

The ControlBoss has a capacity of up to 12 amps per circuit, for a total of 36 amps. It operates between 25°C to 90°C and is available with optional terminators and adapters. Additionally, the ControlBoss offers unlimited custom-length options.

Your McNaughton-McKay sales engineer can help you move outside the box with Amphenol Sine Systems ControlBoss and PowerBoss.



Cognex Vision Sensors: Low-Cost, High-Powered

Cognex redefines low-cost machine vision sensors with the 5x5 line of DVT hardware: the DVT 515, DVT 535, and DVT 545, enhanced with Intellect 1.3 software. With a faster processor, more memory (64 MB of RAM and 16 MB of Flash), a better imaging chip, and easier communications (Auto Cable Crossover), all three modules offer enhanced functionality and performance.

DVT 515

The Cognex DVT 515 is the low-cost standard in vision sensors, with a processor 50% faster than the DVT 510. The Micron CMOS imaging chip provides 640 x 480 resolution, a larger pixel size than the DVT 510, and 60 full frames per second. You'll get reduced image blur for motion and a faster snapshot shutter speed that allows image capture at 1800 ppm. With sensitivity up to 850 nm, you'll also get better responsiveness to IR light. Gauging accuracy is to 0.005 in., while Object Locate averages 116-240 ms.

Suited to bead- and bottle-inspection applications, the DVT 515 is ideal for the automotive, consumer electronics, packaging, plastic injection molding, and consumer packaged goods industries. With the DVT 515, bottle-inspection speed is 1200 ppm, using edge tools. You can also check fill level and seal. With Intellect 1.3 software, edge and measurement tools can measure fill level and ensure the cap is correctly sealed, while the pixel-counting tool can detect bubbles.

In bead inspection, the DVT 515 lets you confirm dispensing of adhesive material and look for gaps, bead width, and position, with the indexed part allowing for one-second inspections. Using Intellect 1.3, you can reduce the bead-tracker tool's setup time and calculate such data as fail percentage, minimum bead width of 15.620 pixels, maximum bead width of 25.449 pixels, maximum offset from nominal path of 478.000 pixels, maximum gap size of 0 pixels, and accumulated gap size of 0 pixels.

DVT 535

The Cognex DVT 535 boasts the best performance in the industry, with a processor that's 80% faster than the DVT 530 and 50% faster than the DVT 515. The DVT 535 matches the DVT



530 in RAM (64 MB) and Flash (16 MB); however, the CCD Imager is better at higher speeds.

The DVT 535 provides improved imaging, resolving blooming issues seen in both the DVT 530 and 540. Also, the DVT 535 provides better signal-to-noise ratio, reducing image noise. In addition, the DVT 535 is more sensitive in the blue spectrum and blue light is great for metal parts.

In gauging applications, the DVT 535 can detect the presence or absence of a bushing insert and gauge the gap between the bushing and metal (tolerance for the measurements is 0.2 mm). With Intellect 1.3, the DVT 535 is able to find orientation using Object Locate on a shiny part; the translation-only mode can increase speed four times.

In automotive connector applications, the DVT 535 can perform automotive feature inspection and verify correct insert in the connector. Using Intellect 1.3 software, model editing allows for removal of background segments; Object Locate can run at 300 ppm.

DVT 545

The Cognex DVT 545 features premium performance for the DVT platform, with speeds 50% faster than the DVT 540 and 167% faster than the DVT 535.

The DVT 545 is ideal for the medical devices, electronic assembly, and injection molding industries. It lets you inspect the orientation of the catheter tube inserted in the body or vessel. With Intellect 1.3, Object Locate can determine orientation to +/-3°; the auto resolution feature increases speed almost four times, from 267 ms to 70 ms.

The DVT 545 offers the speed to run the most advanced Intellect tools, such as Object Count and Defect Detection, and it can also do label inspect at 1000 to 1500 ppm, with accuracy to 0.001 in.



Intellect 1.3

Although the DVT 5x5 line can run on Framework software, Intellect 1.3 software was designed with the 5x5 series in mind, and provides accelerated speed and better accuracy. It's easy to use, easy to deploy, and optimizes the performance of Object Locate and other algorithms.

The Connection Wizard helps the user troubleshoot issues such as bad cables, poor physical connection, or misconfigured IP. The tool-reference diagram lets you see the flow of an inspection from start to finish. Another feature is enhanced result-table marking. Auto exposure lets you find and maintain optimal light levels, while focus-feedback score ensures that the system remains in focus. Auto Cable Crossover capability means that any Ethernet cable will work. The Replicator Tool simplifies setup when an identical inspection is performed many times, and allows for dynamic inspections.

Among other improvements that Intellect 1.3 provides are new vision tools, a reduced need for scripting, enhanced user interface, and support for multiple camera connections.

Ask the sales engineers at McNaughton-McKay for details. Let them help you select the Cognex DVT 5x5 vision sensor solution for you.



Thinking Resistors? Think Powerohm



Resistors come in all kinds of shapes and sizes and have a variety of uses, but unless you work with them every day, chances are you don't think about the resistors in use at your facility very often. That's okay, because Powerohm Resistors thinks about them a lot and has developed a broad line of high-quality resistors to meet your needs whenever they arise.

Powerohm Resistors offers many styles to choose from and several different resistor elements, such as wirewound, edgewound, smoothwound, grid, and ribbon. Each of their resistors offers direct, one-to-one replacement of any major manufacturers resistors, so you can trust their products will fit right and work within your system. And Powerohm offers optional stainless steel construction and in-house ceramic manufacturing that makes them a custom supplier for your resistor needs.

Check out some of Powerohm's available resistor types:

Type CR Case Resistors

- Best suited for intermittent and continuous applications with relatively high resistance and low wattage
- Compact size to make tight spaces more manageable
- Withstand extreme shock and high-vibration applications

Type SR and SXR Smoothwound Resistors

- Best for continuous applications with high resistance and low current requirements
- Withstand considerable shock and are good for high-vibration applications



Type VR Ventwound Resistors

- Best for continuous applications with low current and relatively high resistance requirements
- Designed for continuous current ratings from 2.5 to 16.7 amps and resistance values from 170.0 to 1.0 ohms
- Rated temperature rise of 375°C above ambient, meeting NEMA standards

Type WR Wirewound Resistors

- Designed for continuous low current applications between 1.0 and 32.0 amps and resistance values from 250.0 to .25 ohms
- Rated temperature rise of 375°C above ambient, meeting NEMA standards
- Corrosion-resistant
- Withstand shock and vibrations, making them suitable for harsh working conditions

Type ER and ERB Edgewound Resistors

- Designed for continuous low current applications between 1.0 and 32.0 amps and resistance values from 250.0 to .25 ohms
- Rated temperature rise of 375°C above ambient, meeting NEMA standards
- Corrosion-resistant
- Withstand shock and vibrations, making them suitable for harsh working conditions

Grid and Ribbon Resistors

- Suitable for almost any environment
- Hardy features and stainless steel elements
- Great for high-vibration and manufacturing areas

Choosing the Proper Resistor For Braking Applications

One of the most common uses for resistors is in braking applications. For safety reasons, it is important that processes have the ability to stop quickly, and the proper resistor for the proper application is critical, otherwise overheating, burnout, failure to stop, or tripping of the VFD and interruption of the process may result. By using the coefficients of braking current and duty cycle, the proper resistor element can be chosen to suit your specific needs.

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Thinking Resistors? Think Powerohm

◆ Continued from previous page

Many element types are available from Powerohm, and proper selection ensures performance and reliability. In general, the higher the horsepower of your system, the more robust element you should choose. For example, for a VFD with 1-25 HP, a light-braking resistor type could be chosen, such as the Powerohm case or smoothwound resistor; however, for a VFD with 100+ HP, Powerohm's most rugged grid or ribbon resistors would be the best choice. Remember, the better the fit, the more reliable and longer-lasting your resistor.

Powerohm has been consistently meeting the needs of manufacturers for over a decade. Their broad product line and high-quality components offer a distinct advantage over the competition. You may not think about resistors very often, and that's fine. But when you do, think Powerohm.



For more information on the advantages of Powerohm Resistors and how to choose the right resistor for your needs, contact your McNaughton & McKay sales engineer today.



Brady's B-593 Raised Panel Labels Provide Economical Solution

Finding a cost-effective alternative to engraved plating is made easy with Brady's B-593 raised panel labels. The B-593 labels are available in 13 sizes and 6 colors (white, red, yellow, green, silver, and black) to meet any labeling application need including:

- Electrical components and cabinets
- Pushbuttons and switches
- Instrument panels
- Motor controls
- Racks and patch panels
- Low-voltage control panels
- Signal lights

B-593 raised panel labels provide the quality and durability of a custom-engraved look without the custom-engraved price. This makes for a low-cost solution when labels need replacing or updating. The adhesive on the B-593 labels provides a strong hold without the need for rivets, and because harsh environments require extra protection, Brady also offers the B-966B overlamine material that can be used with all stock B-593 label sizes.

Setup and printing are quick and easy with LabelMark labeling software or BradySoft 8 label-design software. In addition, Brady's Tagus printer provides thermal-transfer print quality for generating crisp, clear labels.

The sales engineers at McNaughton-McKay have all the details on Brady's B-593 raised panel labels and other Brady products. Contact them today for more information.



Sea It to Believe It

In conjunction with Rockwell Automation Fair 2006, McNaughton-McKay Electric cordially invites you to "Sea It to Believe It", on Wednesday, October 25th, from 7:00 PM to 11:00 PM. Join us at the National Aquarium in Baltimore, Maryland for an evening of fun, food, and drink. You'll have a chance to see the underwater inhabitants of the Greater Chesapeake area, while enjoying some tasty local cuisine! What better way to wind down from a day at Automation Fair 2006 than with your friends from McNaughton-McKay — "You'll have to Sea It to Believe It."

We would like to thank the following vendors for making this event possible:

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While at Automation Fair 2006 be sure to stop by and see the latest product offerings from these Encompass Partners.



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