

Fully Insulated Receptacle for Two Wire Applications

New receptacle accepts .250 inch tab quick connects and terminates two wires. Full insulation in V0 or V2 materials. RoHS compatible.

Product Features

- Two wire or wire doubling
- Straight or flag (90 degree) termination versions
- Single step termination

Applications

- Household appliances
- HVAC and commercial equipment
- Business equipment
- Lighting
- Lawn and garden equipment
- Power supplies

Harsh Environments are no Match for the AMPSEAL 16 Connector System

The AMPSEAL 16 connector system is designed to meet the rigorous demands of the commercial vehicle industry and heavy-duty industrial applications requiring the highest standards of performance.

Product Features

- * Wire-to-wire and wire-to-device connector system
- Durable 1.6 mm pin & socket contacts are stamped and formed versions of screw-machined MIL-C-39029 contacts
- Housings are keyed and polarized to prevent mis-mating
- Sealing of interface and wire provides environmental integrity
- Passed ASTM B117, 96 hour salt spray test and 50 durability cycles
- Meets SAE J1455 requirements

Applications

- Off-road vehicle
- Heavy duty industrial

Product Innovations, our quarterly update on the latest new products and technologies from Tyco Electronics, is a compendium of our latest products to support your next design effort. We're ready to help enable your next innovation – with a robust new product development effort that is second to none in the electronics industry.

The products presented on these pages cross many different component categories – including connectors, heat-shrinkable tubing, relays, fiberoptic components, wireless products, power components, inductors, filters, sensors, and myriad others across more than 20 product segments.

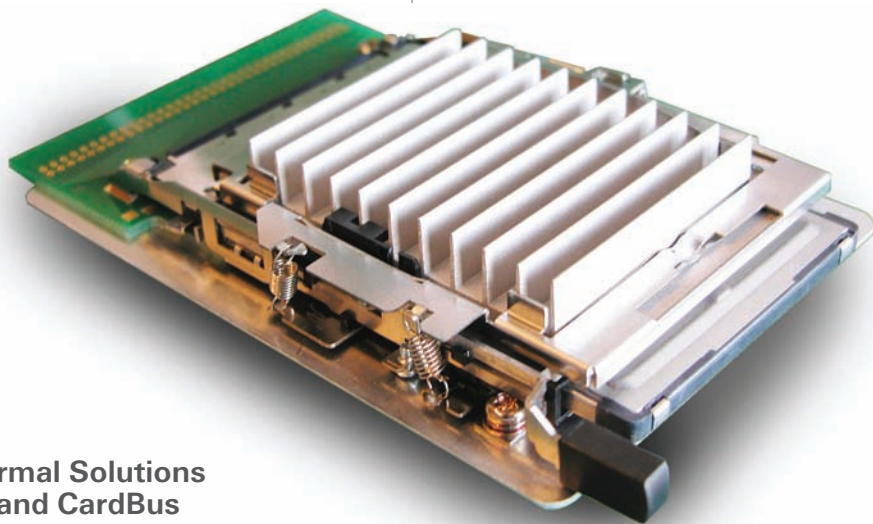
Should something spark your interest, you can quickly link to more information at: www.tycoelectronics.com/productinnovations. From this page you can also link to even more new products by clicking on www.tycoelectronics.com/aboutus/news. And of course your local Sales Engineer is ready to support you throughout your specification and design-in process. We want to help you make your next generation of products successful.



In This Issue

New Products

Elo Develops Breakthrough Acoustic Pulse Recognition Touch Technology



Thermal Solutions Expand CardBus Connector Technology

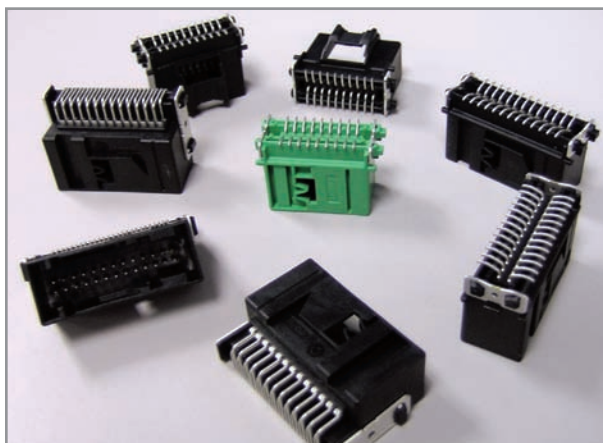
Tyco Electronics' standardized CardBus connector technology, based on PCMCIA standards, now offers customers an integrated heatsink to address their thermal concerns.

Product Features

- Integrated heat sink enables potential elimination of fans
- Header meets Cardbus Personal Computer Memory Card International Association (PCMCIA) standards
- Simple mechanism for inserting and removing the PC Card designed to maximize Thermal Interface Material (TIM) life
- Low overall height
- Durable ejection mechanism

Applications

- Televisions
- Set top boxes
- Desktop and notebook PC's



New Surface Mount Connectors

Tyco Electronics has introduced a new generation of surface mount automotive connectors that eliminate the need for selective solder operations.

Product Features

- Vertical or horizontal PCB orientation
- Terminal position (coplanar location) is controlled within 0.13 mm and can be applied with lower amounts of solder paste
- J-shaped terminal leads provide a large solder area and are compliant to thermal and mechanical stresses, minimizing solder joint stress
- Includes a Coplanar Alignment Rib (CAR) that provides excellent terminal position control for the demanding automotive market
- Available in a range of position sizes from 4 to 52 circuits

Applications

- Automotive

RF Coax Board-to-Board Connection Solutions

Tyco Electronics' innovative compression coax board-to-board connector is designed as a single-piece, blind-mating connector with a spring-loaded contact. This design eliminates the need for multiple soldering operations and promotes simplicity in PCB organization with lower applied product costs.

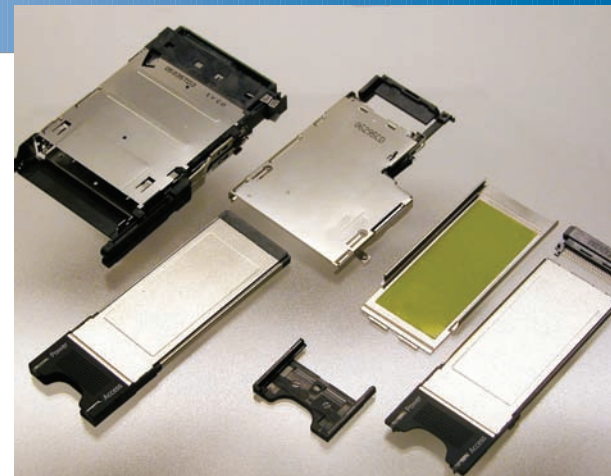


Product Features

- Single connector design - no mating connectors needed
- Available in four sizes for varied board spacing
- Accommodates large radial and axial misalignment—for positioning both boards and for gap between boards
- Surface mount device for standard pick & place compatibility
- Easy connection without risk of breaking soldering or connector when mating or un-mating

Applications

- Modular parallel board-to-board blind mate applications
- Base stations/substation systems
- PDA/PCS/cellular handset applications
- Wireless communication (GSM, PCS, WSDMA, UMTS)



Increased Bandwidth, Decreased Voltage, and Enhanced Efficiency in ExpressCard Technology

PCMCIA ExpressCard technology is the next generation for the PC Card standard. The 26-pin host and module connectors offer a smaller form factor than existing PC Card technology. The same connectors support both 34 mm and 54 mm cards. Each ExpressCard slot supports both USB 2.0 and PCI Express (x1) standards.

Product Features

- Leverages PC Card technology
- Hot plug and play auto-configuration
- Two sizes available including ExpressCard/34 and ExpressCard/54
- Supports both USB 2.0 and PCI Express in each slot

Applications

- Broadband modems, wired and wireless LAN
- TV tuners/decoders
- I/O adapters
- Magnetic disk drives and flash memory card adapters
- Security devices and GPS receivers
- Optical disk drives



Protect Your RJ45 Connection

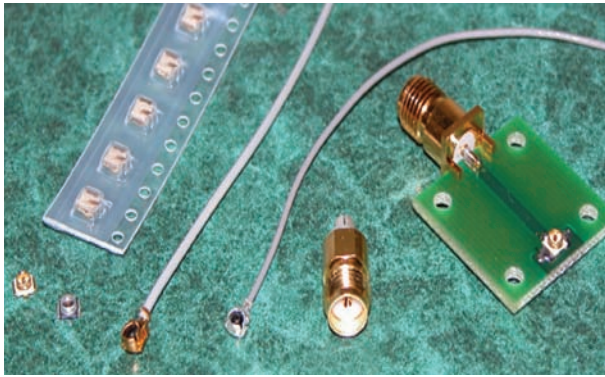
New RJ45 SECURE Jacks and Cable Assemblies are available with six different color coded keying options to keep your data safe.

Product Features

- Meets or exceeds TIA/EIA-568-B.2-1 and ISO/IEC 11801 requirements for Category 6 component performance
- Complies with all of the performance requirements as currently specified for Gigabit Ethernet (1000BASE-TX), 10 and 100BASE-TX, token ring, 155 Mbps ATM, 100 Mbps TP-PMD, ISDN, analog and digital video, and analog and digital voice (VoIP)
- Available in red, yellow, green, blue, violet and orange

Applications

- Military-government
- Financial
- Data centers



New Lower Profile Ultraminiature Coax Cable Assembly System (UMCC) Meets Demand for Next Generation Wireless Applications

Tyco Electronics offers a new Ultraminiature Coax Connector and Cable Assembly (UMCC) series of products. Building upon the success of the popular SSMT series, this new lower profile version meets the growing demand for next generation wireless applications such as wireless internet, RFID, Bluetooth, mobile antennas and cellular handsets.

Product Features

- One of the lowest profiles in the industry - 2 mm off the board
- Excellent fit for 50 Ohm systems
- Easy snap on/off mating
- Extremely small footprint (3 mm x 3 mm)
- Superior electrical performance through 6 GHz

Applications

- Wireless internet
- RFID
- Wireless products featuring Bluetooth technology
- Mobile antennas
- Cellular handsets



Photovoltaic Connector System Expands

New junction box configurations have been added to the SOLARLOK connector system. These new products allow for more efficient hook up of photovoltaic arrays and components.

Product Features

- IP 65 rating
- UL1703 and TUV approvals
- Serial or parallel connection of photovoltaic arrays
- New positive latching connectors

Applications

- Residential photovoltaic systems
- Commercial photovoltaic systems



Advancements in Affordable Rugged Fiber Optics

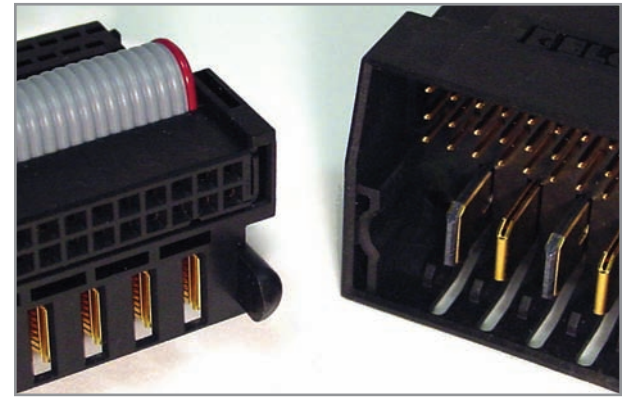
The PRO BEAM Mini connector was developed to provide quality solutions for rugged optic applications requiring tightly packaged connections outside the circular standard. The low profile PRO BEAM Mini connector maximizes board real estate by its shortened length and reduced connector weight.

Product Features

- Expanded Beam technology
- Non-contacting blind mating to preserve fiber behind safety glass
- Low sensitivity to thermal, mechanical, and vibrational extremes
- Sealed and protected fiber ends easily maintained for greater resistance to environmental contamination
- Modular and portable hermaphroditic insert
- Minimized Fresnel effects for optimized performance

Applications

- Telecommunication and broadcasting
- Security and alarm systems
- Field-deployable communication
- Industrial antenna/cellular base stations
- Commercial and military aerospace and avionics
- Marine ship-to-shore applications



Innovative Insulation and Blade Design Enable Power Connector Space Savings

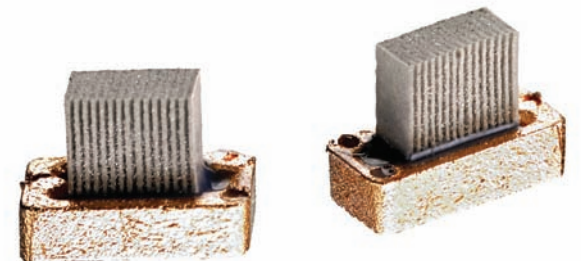
The stacked MINIPAK reduced length connector provides high density, high current, and high performance power solutions by ribbon cabled signal connections and compact blade design. High power levels are accommodated in minimal space to meet telecom and computer power connection needs.

Product Features

- Reduced connector length by custom insulators
- Innovative use of Insulation Displacement Connector (IDC) ribbon cabling
- Reduced connector length by DualBlade contact power distribution
- Capable of single contact current feed and returns at variety of AC and DC voltages
- Within UL (USR and CNR) safety requirements

Applications

- Power supplies
- Board-to-board within a chassis
- Servers and routers
- UPS
- Hot swap and N+1 power distribution



Versatile Surface Mount (SMT) Shielded Connectors

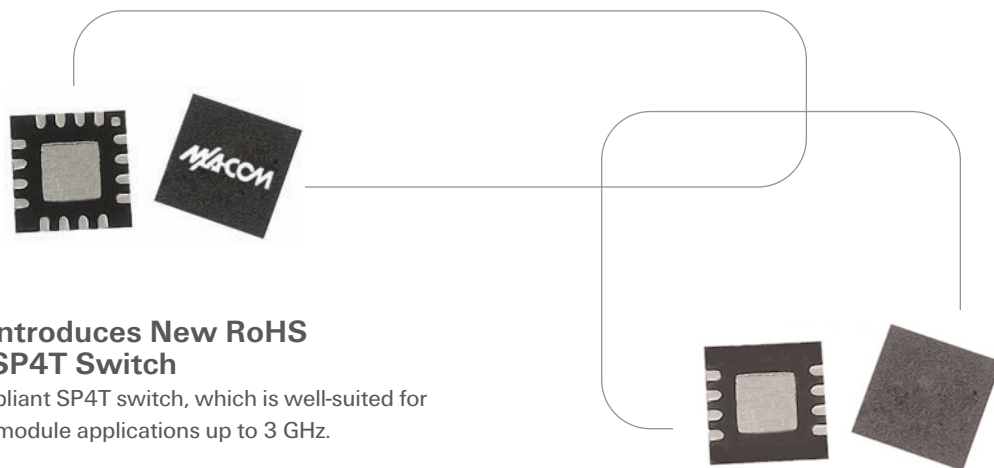
Tyco Electronics announces the new STAX ground shield connector, the market's first surface-mountable elastomeric connector. This one-piece, low profile, customizable connector eliminates the need for post-design tooling and shield finger alterations, multiple footprint patterns, and differing height-clearance part numbers.

Product Features

- Surface mount/pick-and-place
- Tape-and-reel or bulk packaging
- Low resistance: 200 mOhm
- One-piece connector with no tooling required
- Readily customizable (Deflected height: 1 mm to 2.25 mm)
- Low profile (Deflection Range: 5-65%)

Applications

- Lower profile connection
- Shielding to prevent EMI
- Grounding
- Cellular phones
- Other portable devices



M/A-COM Introduces New RoHS Compliant SP4T Switch

New RoHS compliant SP4T switch, which is well-suited for antenna switch module applications up to 3 GHz.

Product Features

- Maintains linearity up to 3 GHz
- High power handling with P0.1 dB of 38 dBm
- Low insertion loss of 0.6 dB
- High IIP3 of 57 dBm

Applications

- Mobile communications
- Multiple antenna applications

M/A-COM Introduces Smallest Low-Loss DC-8 GHz SPDT RoHS Compliant Switch

New DC-8GHz SPDT RoHS compliant switch is ideal for applications that require low insertion loss and fast settling times over a wide frequency range in an ultra small size.

Product Features

- Ultra small size, 2 mm package
- DC-8 GHz operation
- Low insertion loss
- Fast settling time

Applications

- WiMAX
- MIMO
- UWB



Battery Disconnect Switch A

The Battery Disconnect Switch A (BDS-A) is a small and efficient, high current device for disconnecting the battery from a vehicle's wiring system.

Product Features

- Operates between -40 and +120° C
- Shock tolerance up to 40 g
- High peak current capability of up to 1800 A
- Continuous current capability of 190 A at 85° C
- Facilitates short-circuit protection up to 1500 A
- Will also be available as a monostable version

Applications

- High current applications such as diesel pre-heaters, large electro-hydraulic pumps and catalytic pre-heaters
- Disconnects battery from starter, alternator, fuel pump and other loads to prevent fire caused by short circuits
- Dual battery or dual voltage applications
- Secures the battery in case of short circuit, over current or wrong polarity
- Helps keep the power net in balance and preserve health of energy storage systems
- Facilitates energy management during seasonal storage, service and transport deactivation



Shielded Filter Has Small Footprint

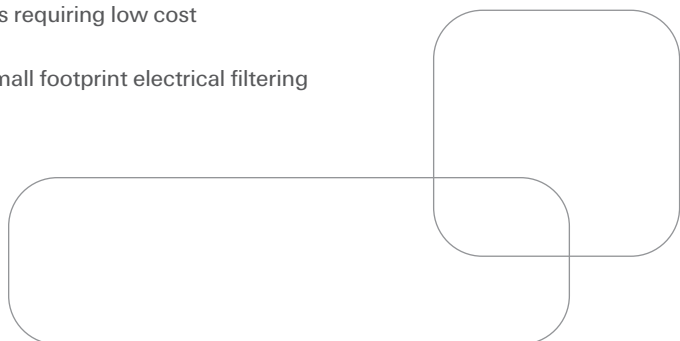
The SRB power line filter provides effective electrical noise mitigation in a small package.

Product Features

- Footprint is roughly 25% smaller than competitive product
- Complete shield design with multiple capacitance values
- 15 A/250 VAC (10 A VDE)
- Several mounting and termination options

Applications

- Industrial and commercial electronics
- Power supplies
- Medical equipment
- High volume applications requiring low cost electrical filtering
- Applications requiring small footprint electrical filtering



Low Frequency Inductive Antennas for Signal Applications

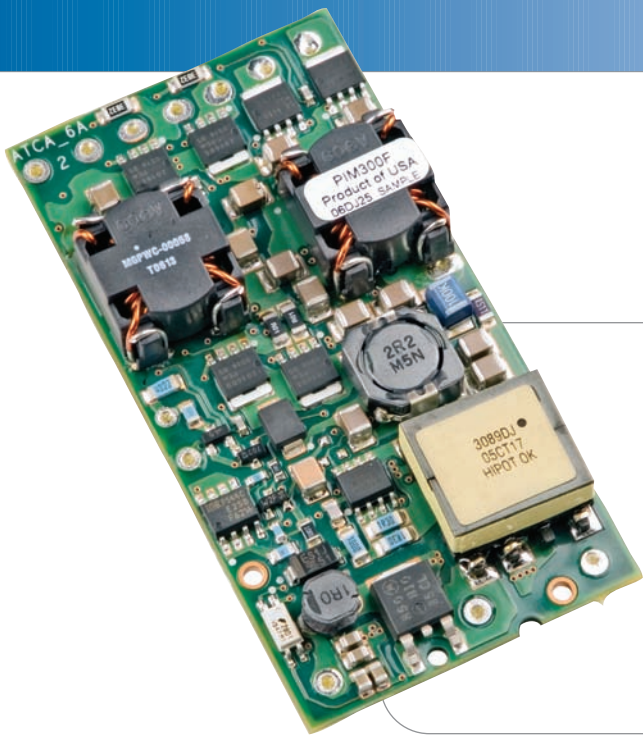
Tyco Electronics introduces low frequency inductive antennas for signal applications.

Product Features

- Send and receive data below the 130 kHz range
- Transmit power to a load or source (capacitor or battery)
- Custom designs
- Orthocyclic winding processes and precision thermoplastic overmolding provide highly accurate antenna properties and reliable performance
- Multispring technology simplifies the steps for electronic assembly

Applications

- Automotive applications
- Low frequency applications



New 300W Power Input Module for ATCA Boards

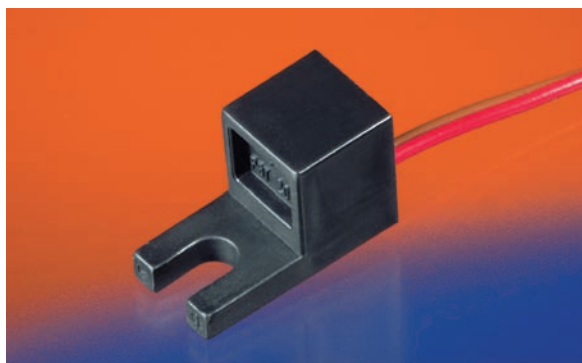
The PIM300 provides for a low-cost, quick, simple and elegant power architecture solution for high-density, high performance ATCA boards.

Product Features

- Hot-swap and in-rush control
- Input undervoltage and overvoltage protections
- Integrated EMI filter designed to meet CISPR class B limits
- 72 V charging current for holdup/bulk capacitors
- 8 W of isolated auxiliary power for IPM (3.3 V or 5 V)
- Complete power solution for ATCA board per PICMG 3.0

Applications

- ATCA front board/blade
- Telecom central office equipment



Hall Sensor for End Position Detection

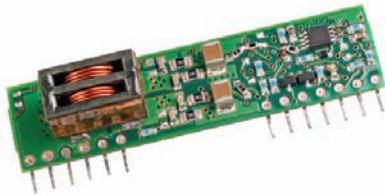
Modern automotive convertible roof systems require a precise position detection system, typically accomplished with non-contact positions sensors. Complex convertible roof systems have up to fifteen different detection positions. Tyco Electronics provides application specific solutions with non-contact position sensors.

Product Features

- High performance switching point accuracy, distance and low hysteresis
- Requires only ferromagnetic targets
- Approved for 105°C and IP 6K7K
- Non-contact principle offers improved reliability
- Small overall package size

Applications

- Control systems for automotive convertible roofs



AUSTIN MEGALYNX POL Modules Deliver Up to 30 Amps of Output Current

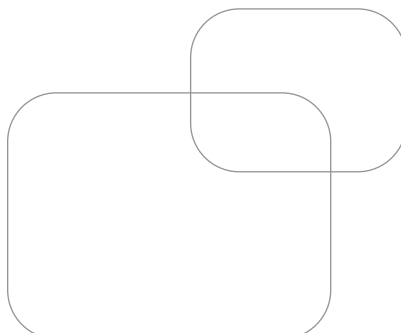
The AUSTIN MEGALYNX and AUSTIN MEGALYNX II series modules extend the output current range of the AUSTIN SUPERLYNX modules to 30 Amps.

Product Features

- EZ-SEQUENCE programmable output voltage
- Delivers up to 30 A of output current
- Load share (option feature)
- Remote sense
- Overcurrent and overtemperature protections
- Monotonic start-up into pre-bias load

Applications

- Latest generation IC's (DSP, FPGA, ASIC)
- Intermediate bus architecture
- LANs/WANs
- Microprocessor powered applications
- Servers and storage equipment
- Workstations and servers



New High Current Inductors

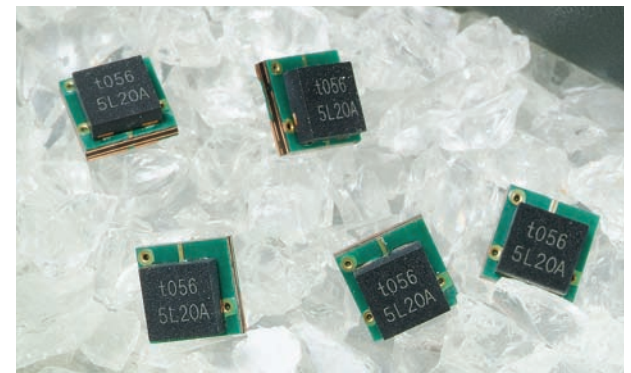
New high current inductor for wide range of applications. Suppresses AC ripple in DC output circuits.

Product Features

- Low profile
- High performance
- SMT
- Shielded, composite construction

Applications

- Computers
- Power supplies
- DC-DC converters
- AC-DC converters
- Battery powered devices



New PolyZen Micro-Assemblies Help Protect DC Power Ports

PolyZen polymer enhanced, precision Zener diodes are designed to meet the growing need for overcurrent and overvoltage protection on portable equipment that utilizes barrel jacks for DC power input.

Product Features

- Overvoltage transient suppression
- Stable VZ vs. fault current
- Time delayed, overvoltage trip and reverse bias trip
- Integrated device construction
- Power handling on the order of 100 Watts

Applications

- Portable and general electronics
- DC power port protection for systems using power-input barrel jacks
- Internal overvoltage and transient suppression
- DC output voltage regulation



New Halogen-free Polyolefin Heat-Shrinkable Tubing

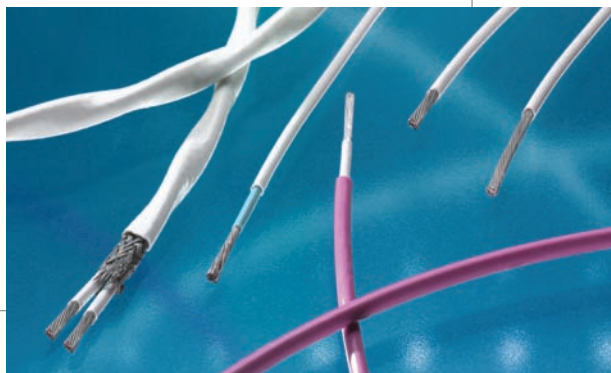
ZEROHAL ZH2 and ZH4 heat-shrinkable tubing are near-zero halogen content products suitable for commercial applications. Flame retardance combined with a high degree of flexibility and low recovery temperatures make ZH2 and ZH4 a convenient method of adding insulation and protection to wire and cable harnesses.

Product Features

- Flexible polyolefin tubing products which pass the very stringent UL/CSA VW-1 flame test and are rated at 125° C
- Both products are UL recognized and CSA certified to meet the most common requirements for use in commercial applications
- Emit minimal amounts of toxic or acid gasses when burned to meet the fire safety requirements of a variety of markets

Applications

- Commercial electronics
- Rail and mass transit
- Automotive
- Elevators
- Construction



Low Fluoride Wire Debuts

New low fluoride wire for aerospace and defense applications is a breakthrough in low fluoride outgas wire.

Product Features

- 60 times less fluoride compared to MIL-spec XL-ETFE
- XL-ETFE can be applied to several wire and cable constructions
- Cross-linked, non-melting thin wall

Applications

- Satellites
- Missiles
- Aircraft



New MIL-DTL-24640 Cable Provides Severe Water Blocking

MIL-DTL-24640 lightweight shipboard cables are qualified on a number of DOD slash sheets contained in the MIL specification and meet the rigorous requirements of flame, smoke emissions, halogen content and severe water blocking specifications.

Product Features

- Water blocking
- Meets MIL-DTL-24640
- Improved flexibility compared to other water blocking methods
- Custom cable designs available
- Light weight

Applications

- Ships and marine craft
- Shipboard communications, power and control systems
- Military and commercial



Airframe Wire Can Be Laser Marked

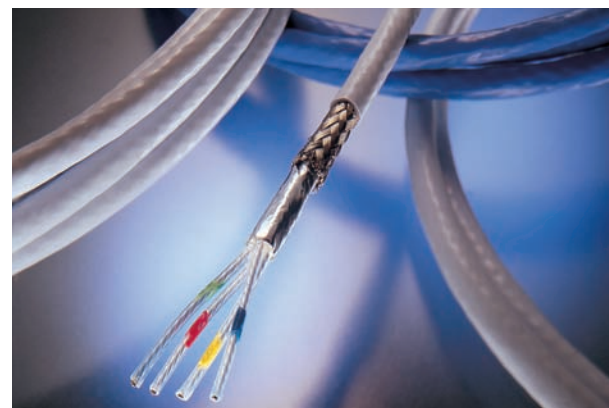
Recent testing has confirmed that SPEC 44 wire from Tyco Electronics can be laser marked with up to 93% contrast.

Product Features

- Laser markable airframe wire
- Up to 93% contrast
- Laser marked wire maintains electrical and mechanical properties of unmarked wire and cable
- Meets MIL-W-81044 standard

Applications

- General purpose airframe hookup wire
- Commercial aircraft
- Military aircraft



New Cable Brings Ethernet to Skies

Raychem QUADLITE cable is designed for quadaxial connectors used in the aerospace industry.

Product Features

- 100 Ohm, 2 pair geometry
- Terminates with size 8 quadax contacts
- Small, symmetrical cross-section
- 150° C or 200° C temperature rating
- IEEE 802.3/2000

Applications

- Aircraft data networking
- Aircraft in-flight entertainment
- 10 and 100BaseT Ethernet
- Air traffic control networks and voice over IP (ATC & VoIP)
- Ruggedized Ethernet



Laser Marking System Debuts

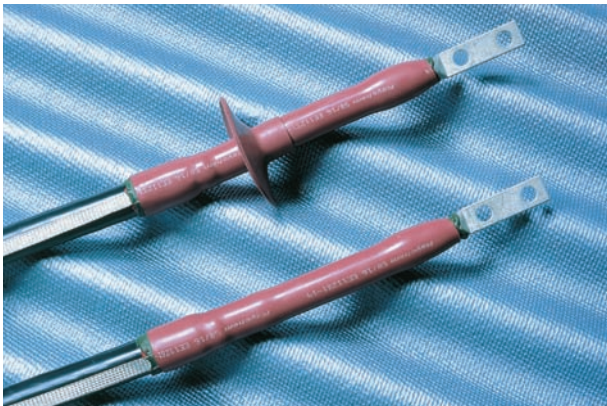
The LMS6000 laser marking system provides high speed, high resolution marking on a wide range of labels, tags and direct-to-product. Marking is possible on a wide variety of materials.

Product Features

- Ytterbium doped fiber laser
- 1000 dpi resolution
- 2000 mm per second marking speed
- Closed loop system with error detection

Applications

- Cutting
- Marking
- Anodizing
- Bar code
- 2D data matrix
- MIL-STD-129, MIL-STD-130



One-Piece High Voltage Termination

New one-piece high voltage termination for power transmission up to 35 kV.

Product Features

- One piece
- Stress control grading layer with ZnO semiconductor technology
- Heat-shrinkable portion of termination insulates, seals and strain relieves

Applications

- Electrical power transmission



New Selective Soldering Machine Now Available

The Rhythm Selective Soldering system is an effective entry point for manufacturers seeking to integrate selective soldering processes for through-hole and odd-form components.

Product Features

- No special tools or accessories required
- Solder is presented from below the printed circuit board
- System handles through-hole and odd-form components
- Conforms to SMEMA in-line manufacturing standards

Applications

- Selective soldering processes
- Through hole
- Odd form components



New Micro Cable Stripping Machine

New cable stripper handles cables ranging from 10 AWG to 36 AWG.

Product Features

- Precise controls
- 0.1 mm diameter increments
- 1 mm to 25 mm stripping length
- Maximum cycle time is 1.5 seconds

Applications

- Wire harness manufacturers
- In-house wire processing



Rotary Cable Stripper Handles Wide Range of Cable

Rotary-style cable stripper handles many cable styles, types and insulations in 15 AWG up to 5 AWG wire range.

Product Features

- Tool steel rotary cutter with blade centralizer
- 15 AWG up to 5 AWG
- 20 mm to 90 mm strip length
- Optional carbide cutter blade

Applications

- Cable stripping in low, medium or high production rate environments

Technology Focus:

Elo Develops Breakthrough Acoustic Pulse Recognition Touch Technology



APR Glass Overlay

Acoustic Pulse Recognition (APR) from Elo TouchSystems, the global leader in touch technology, is a completely new and unique way of sensing touches on a display. Consisting solely of a glass overlay mounted in front of the display, together with a small electronic controller board, Elo's APR technology provides a new set of benefits that have only been partially achieved before by other touch technologies.

APR combines the ultimate in optical qualities, durability, and stability of surface acoustic wave (SAW) and infrared technologies with the excellent dragging properties of capacitive, along with the stylus, glove, and fingernail activation and low-cost advantages of resistive technology. In addition, APR is resistant to water and other contaminants on the screen, can be scaled from PDA to 42-inch displays, and provides palm rejection during signature capture.

APR works in a simple and elegant way—by recognizing the sound created when the glass is touched at a given position. The key is that a touch at each position on the glass generates a unique sound. Four tiny transducers attached to the edges of the touchscreen glass pick up the sound of the touch. The sound is then digitized by the controller and compared to a list of prerecorded sounds for every position on the glass. The cursor position is instantly updated to the touch location. APR is designed to ignore extraneous and ambient sounds, as they do not match a stored sound profile.

Although APR is a new technology, in some ways it is very similar to a widely successful technology that has been available for 20 years—Elo's IntelliTouch surface wave. Both are acoustic technologies using a pure glass overlay with transducers attached. Whereas IntelliTouch transducers are both generating and receiving signals, in APR the transducers are only listening.

How APR Works

The APR assembly comprises a glass display overlay or other rigid substrate, with four piezoelectric transducers mounted on the back surface. The transducers are mounted on two diagonally opposite corners of the visible area

and connected via a flex cable to a controller card. The impact when the screen is touched, or the friction caused while dragging between a user's finger or stylus and the glass, creates an acoustic wave. The wave radiates away from the touch point, making its way to the transducers which produce electrical signals proportional to the acoustic waves. These signals are amplified in the controller card and then converted into a digital stream of data. The touch location is determined by comparing the data to a profile. APR is designed to reject ambient and extraneous sounds, as these do not match a stored sound profile.

APR Performance Features

- Ideal with Glass Overlays – Touch technologies always require an overlay over an LCD display to either sense the touch or protect the LCD from the touch. Glass is the preferred material due to its optical clarity, hardness and durability, and APR technology works well with glass.
- Choice of Stylus – APR technology can be activated with a finger, fingernail, pen or stylus, or credit card.
- Contaminant Resistance – APR technology is resistant to contaminants on the screen such as liquids, dirt, ketchup, grease, and ultrasound gels, and it even works with scratches. It can also be sealed watertight to industrial standards.
- Stability – APR has a fixed coordinate system that never changes over time, position, or environmental changes. Therefore, traditional touchscreen calibration can be eliminated if the display size and position are fixed.
- Fast and Sensitive – APR does not miss touches of short duration as some other technologies do, because a short tap also generates a recognizable sound. APR also allows dragging with both a finger and a stylus.
- Simple Construction, Sealable, with Narrow Borders – Original Equipment Manufacturers (OEMs) look for touch technology components that are easy to integrate. APR, as an acoustic technology, is not affected by surrounding metal or poor grounding, can be sealed watertight with a variety of materials, and it has the narrowest borders of any overlay touch technology—a mere 5 mm, including sealing area.

The Future of APR

Elo TouchSystems is initially launching APR technology directed at the retail and restaurant POS market, as its benefits clearly fit that important touch application. Elo's popular 1529L 15" LCD multifunction touchmonitor is available for purchase with APR as an additional technology choice. The combined benefits of APR—the choice of stylus and the splash and contaminant resistance of resistive technology, plus the pure glass optics and resistance to wear of infrared and surface-wave technologies, all integrated in fully sealed, attractive POS touchmonitors—will be just the beginning for this revolution in touch.



PK2: Innovative Automotive Power Relay for PCB Mounting

Due to the growing demand for comfort and higher packaging standards in motor vehicles, Tyco Electronics has developed a new generation of automotive power relays. The innovative PK2 Relay (Power K2 Relay) is specifically designed for printed circuit board (PCB) mounting.

Product Features

- Includes a monostable and a bistable (latching) version
- Volume was reduced by 60% to 18.3 x 16 x 15.9 mm
- The required PCB area was minimized by almost 50% to just 293 mm²

Applications

- Heat sensitive applications
- Increased ambient temperature applications
- Standard for multi-purpose applications, e.g. motors, lamps and capacitive loads
- Supply (clamp) relays
- Replacement of plug-in relays (Mini ISO)
- Bistable specific: energy management - dormant current applications



New Addition to Micro K Family: Micro K THR

Tyco Electronics introduces the Micro K Through Hole Reflow (THR) relay. The Micro K THR relay is designed for reflow solder processes.

Product Features

- Available in THT, SMD and THR versions
- Height only 9.9 mm for THT; 10.2 mm for THR and 11.3 mm for SMD
- Single and double relays available
- Single Micro K available as bistable (latching) relay
- High sensitivity (high impedance coil)
- Minimum weight approx. 4 g/single relay

Applications

- Automobile seat and rear window heaters
- Motor and motor reverse units, e.g. for window and sun roof drives, seat adjustments, pumps
- Turn signal and vehicle lighting
- Energy management (Micro K Latching Relay)