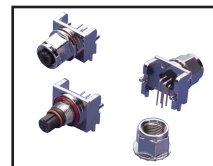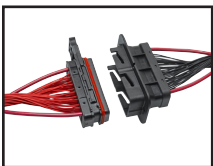# NON-AUTOMOTIVE ❯
TRANSPORTATION SOLUTIONS

molex®

MOLEX PROVIDES SOLUTIONS ❯
FOR COMMERCIAL VEHICLE AND NON-AUTOMOTIVE TRANSPORTATION CONNECTIVITY GLOBALLY

Our team of highly-skilled experts is focused on designing and developing innovative product solutions for the commercial vehicle and non-automotive transportation industry. From the "in cabin" to the outdoor heavy duty mining machine applications, Molex's network communication, connectivity, power, control and other related accessory products meet the increasing demands of this diverse industry.

PRODUCTS ›

Sealed Connector Systems
- Sealed plugs and receptacles
- Circular and rectangular connectors
- High density hybrid harness connectors
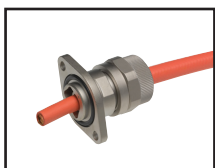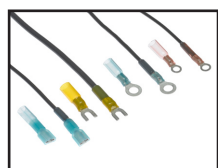- Rugged environmentally sealed IP67/IP69K

Network connectivity
- Brad® Ethernet solutions
- Harsh IO IP67 modules
- Brad Industrial USB Plugs and Receptacles
- Brad CAN Bus solutions
- NMEA 2000® solutions
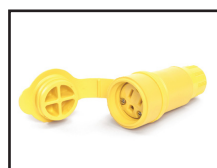
Passive connectivity
- Brad® Micro-Change® (M12) cables
- Ultra-Lock® positive locking cables
- Brad mPm® DIN Valve connectors
- MPIS connection port boxes
- Sealed harsh-duty M12 receptacles and headers

*NMEA 2000 is a registered trademark of the National Marine Electronics Association (PI)

Power connections and grips

- High amperage lugs and terminals
- Insulated waterproof terminals
- EMI/RFI shielded sealed cable glands
- Stainless Steel strain relief and support grips
- High current cable assemblies

Plugs and Receptacles, GFCI's

- Woodhead® watertight wet location wiring devices
- NEMA 6P Industrial duty GFCI
- Woodhead® watertight wet location pendant stations
- Wet Location locking blade receptacles

Reels and Lighting

- Woodhead® NEMA 6P illuminated outlet box
- Heavy-Duty cable and grounding reels
- Wide-area lighting
- NEMA 6P Portable lighting

PRODUCT INFORMATION

SEALED CONNECTOR SYSTEMS

Sealed Plugs and Receptacles
- Pre-assembled connector housings and TPA components shipped in one-piece units
- Integral, two-way mat seal on the plugs and receptacles
- Sealed panel-mount plugs are equipped with blind-hole boss feature

Circular and Rectangular Connectors
- Pre-assembled connector housing, seals, rear cover and TPA ship in one-piece
- Simple crimp, poke and plug application using standard MX150™ and MX150L™ terminals; no need to crimp individual wire seals
- Integral Terminal Position Assurance (TPA) with new anti-scooping feature

High Density Hybrid Harness Connectors
- High-performing sealed-connection system using matte-seal technology for CP 0.635 and 1.50mm terminals and using singe-wire seal technology for CP 2.80mm terminals
- Hybrid-connection system using three different terminal sizes; CP 0.635, CP 1.50 and CP 2.80mm terminals
- High-density system due to compact-connector design and fine-pitch size of 2.54mm

Rugged Environmentally Sealed IP67/69K
- Low-insertion-force stamped terminals
- Wire seals are imprinted instead of embossed or engraved (24 shell size, 31-circuit connectors only)
- Environmentally sealed to IP67 standard

NETWORK CONNECTIVITY

Brad Ethernet Solutions
- Plug-and-play wiring systems ensure fast and easy integration and simplify production line maintenance
- Designed to withstand the rigors of the automotive production environment to protect against down-time
- Solutions to support PROFINET, Ethernet, DeviceNet, PROFIBUS, CANopen, and CC-Link

Harsh I/O IP67 Modules
- Machine mount IO modules reduce cabinet space and wiring costs
- Brad Ultra-Lock® (M12) connection system provides fast and secure connections
- Support numerous fieldbuses such as PROFINET, Ethernet IP, Modbus TCP/IP, DeviceNet, PROFIBUS, and CANopen

Brad Industrial USB Plugs and Receptacles
- IP67 and NEMA 6P ratings to ensure corsets are water and dust tight for function integrity
- Overmolded cordsets allow faster installation at customer site versus field-wireable designs
- Bayonet-style latch receptacle provides quick and easy connection and ensures proper insertion depth and mating

Brad CAN Bus Solutions
- Rugged IP68 rating for continual connection integrity in individual environments
- Wide variety of product options to provide maximum customer flexibility
- Phosphor bronze contacts ensuring the greatest reliability

NMEA 2000* Solutions
- Vibration and water resistant which is ideal for harsh weather environments
- High strength cable crimp to survive 35 to 50 pounds of pull-out force
- Epoxy sealed receptacle shells for positive reliability

PASSIVE CONNECTIVITY

Brad Micro-Change® (M12) cables:
- IP67, IP69K compliant
- PTFE (polytetraflouroethylene) coated coupling nuts for weld and corrosion resistance
- Oil resistant, weld resistant, and hi-flex cable options

Ultra-Lock Positive Locking Cables
- Push-to-lock technology for simple and fast operator-independent connection
- Positive-locking for reliable and secure connection
- Rated to 250V AC/DC, up to 4.0A ideal for Class 2 power and network circuit applications

Brad mPm® DIN Valve Connectors:
- Conforms to EN175301-803
- IP67 sealing properties
- Used with solenoid valves in all hydraulic and pneumatic applications

MPIS Connection Port Boxes:
- Available with Brad Ultra-Lock (M12) and Brad Nano-Change (M8) IO connections
- Weld resistant, oil resistant, and shock/vibration ratings make them suitable for most any automotive application

Sealed Harsh-Duty M12 Receptacles and Headers
- Heavy-duty die-cast construction and IEC 61076-2-101 compliant design providing a robust housing for superior Electro Magnetic Interference (EMI) and Radio Frequency Interference (RFI) protection
- Water-tight panel-mount design which enables enclosure to meet NEMA 6P and IP67 protection

POWER CONNECTIONS AND GRIPS

High Amperage Lugs and Terminals
- Crimps in industry standard tooling to minimize customer capital investment
- Seamless barrel design, no special orientation in crimp tool required
- Flared barrel entry to ensure easy wire insertion

Insulated Waterproof Terminals
- NiAc insulation shrinks 40% faster than nylon or polyolefin tubing
- Shrinks at a low temperature of 90°C to prevent accidental damage to wire insulation
- Lined with hot melt adhesive to completely seal the termination area and heals any splits in insulation caused by crimping

EMI/RFI Shielded Sealed Cable Glands
- Flange mount for fast installation
- Connects shield to gland body
- Temperature ranges from -60 - 200° C
- Oil resistant elastomer seals
- Superior pull withstand
- Sizes from 1 AWG through 4/0

Stainless Steel Strain Relief and Support Grips
- Full-diameter cord range for stainless steel strain reliefs which allows grips for any cord size for customer convenience
- Threaded-style bodies available in stainless steel and non-metallic to ensure environmental compatibility
- Integrated-metal shield support grips providing reinforcement at critical point
- Support grips are available in four eye styles: single, double, universal and offset for customer convenience

PLUGS, RECEPTACLES and GFCI'S

Woodhead Watertite® Wet Location Wiring Devices
- Rubber construction providing ultimate temperature, chemical and abrasion resistance
- Self-aligning blades provides lower operating temperatures, yielding longer life
- Unique integral multiple ring seal to lock out moisture and other contaminants

NEMA 6P Industrial Duty GFCI
- Plug-connector type, flying lead, box-style products available
- Available in 15, 20 or 30A, 120 or 240V
- Weatherproof, NEMA 3R, 4X and 6P ratings available

Woodhead Watertite Wet Location Pendant Stations
- Customizable 2-, 4-, 6-, 8-, 10-, and 12-button pendant stations
- Choose from single- to three-speed switches, E-stop switches, key switches, and indicator lights
- Ergonomically designed to fit an operator's hand

REELS AND LIGHTING

Woodhead NEMA 6P Illuminated Outlet Box
- Pre-wired solutions, factory certified, saves time and money
- Standard components and replacement parts providing exceptionally long-life products
- Custom-built products allows for unique application solutions

Heavy-Duty Cable and Grounding Reels
- Containerized mainspring provides easy and safe replacement of mainspring
- NEMA 3 and NEMA 4 enclosure provides personal protection against incidental contact, designed for indoor and outdoor use
- Anti-lock-out ratchet system ensures user will never be locked out of a full cable extension

Wide-Area Lighting
- Variety of light sources - fixtures can be selected based on the type of amount of light for the application
- Range of enclosure ratings – fixtures can be selected based on the application requirements for material, moisture and ruggedness
- Selection of mounting methods

NEMA 6P Portable Lighting
- Fixtures can be selected based on the actual type and amount of light needed for the application
- Fixtures can be selected based on the application requirements for material, moisture, ruggedness
- Products can be used for extended periods in the most harsh environments

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Get customized insights at: **www.molex.com/cm/commercialvehicle/index.html**

molex®

one company › a world of innovation