

# molex®

## INDUSTRIAL > NEWS

EXCLUSIVELY FOR MOLEX INDUSTRIAL DISTRIBUTORS

### Ethernet switches for the material handling industry

For more than 40 years the Brad® name has been a leader in providing connectivity solutions for the material handling industry. Whether the job calls for cost-effective network components for everyday applications, or harsh duty devices rated to perform in extreme conditions, Brad Direct-Link® Industrial Ethernet switches are always the right choice for the job.

Featuring plug-and-play simplicity, Brad managed and unmanaged in-panel switches support all standard IEEE 802.3 protocols and are UL 508 and UL 1604 approved. Managed switches features include IGMP multicast filtering, VLAN configurability and redundant ring with rapid recovery. Rugged, harsh-duty unmanaged switches are rated to IP67 and to a temperature range of -40 to +85°C (metal case), making them ideal for food processing applications, bakeries, and many other harsh environments.

Markets and applications include mining (above ground and below), agriculture, food processing plants, commercial bakeries, mobile conveying systems and machinery, and beverage plants.

### Wide range of cables and accessories for all major Industrial Ethernet protocols

From legacy systems to the latest generation networks Brad communication products enable high-speed data transmission – up to 10 Gbps with M12 X coded design – across more than 40 industrial networks and fieldbuses. For data collection and communication, from the factory floor to the business enterprise control system, Brad solutions offer the industry's largest selection of networking cables and accessories.

Cable options include unshielded and shielded twisted pairs for CAT5E and CAT6A data performance. Shielded cables come in numerous styles and a range of jacketing material choices, including:

- PVC jacketing for general purpose uses
- Polyurethane jacketing for chemical resistance
- Thermoplastic jacketing for oil resistance, weld-flash resistance and high flex life

Additionally, if customized cables and cable assemblies are needed, the depth and breadth of the Molex product line means that virtually any request can be accommodated.

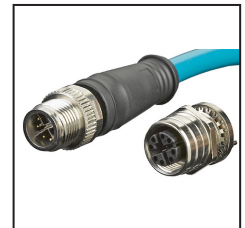
Through its line of Brad products, Molex also offers a wide range of connector interfaces, locking mechanisms and couplings for use in the material handling industry.

*Features include:*

- IP67 sealed interface
- Threaded and bayonet-style couplings with Ultra-Lock® push-to-lock technology
- M12 D-coded interface for M12 Ethernet
- M12 A-coded interface based on port with twisted pair design
- Receptacles designed for both threaded mating and for push-pull quick connect mating



**BRAD® DIRECT-LINK®  
INDUSTRIAL ETHERNET  
SWITCHES**



**BRAD® MICRO-CHANGE®  
M12 CAT6A, X-CODED**



**BRAD® MINI-CHANGE®  
AND MICRO-CHANGE®  
SPECIAL WIRED  
CORDSETS**

## Harsh-Duty IO Modules

When the challenge is quickly and reliably connecting industrial controllers to I/O devices where liquids, dust or vibration may be present Brad harsh-duty IO modules are the solution. These machine-mountable harsh-duty IO modules support all major industrial fieldbuses including PROFIBUS\*-DP, DeviceNet†, CANopen‡, Modbus§ TCP, EtherNet/IP and PROFINET\* IO.

Key features include:

- IP67-rated housing
- M12 Ultra-Lock® connection system compatible with standard M12 threaded connectors
- Multiple M12 ports for sensor communications

Daisy chain Brad harsh-duty IO modules throughout the material handling system for reliable and effective communication from the plant floor to the front office.

## M12 Sensor cordsets

The Molex Brad line of M12 sensor cordsets come in 2-12 pole versions to accommodate a wide range of signal needs. Manufactured to IEC standards, the cordset's rugged IP67-rated connector is compatible with all IEC-compliant M12 connectors and can be overmolded to a variety of cable. Its anti-vibration feature makes the M12 cordset well-suited for use on conveyor lines. In addition, the M12 cordset is available as a field-attachable component, offering ultimate design flexibility.

Brad cordsets are used throughout the material handling industry to help power conveying systems and can be widely found in such essential devices as bar code readers, check weighers, dimensioners and other equipment.

All cordsets feature a Teflon\*\* coating on coupling nuts, weld-splatter-resistant molding material and oil-resistant cable. The Molex global footprint assures worldwide availability and quick response times.

## Multi-port interconnect system (MPIS®) distribution boxes

The Molex Brad MPIS Distribution Box is a robust, pre-wired molded distribution solution that saves wiring time and helps prevent mis-wiring. Designed to meet IEC M12 standards, the MPIS distribution box is compatible with all IEC-compliant M12 cordsets and is available in 4, 6 and 8 versions. The ability to connect up to 16 sensors to a single MPIS block can reduce system complexity, cabling and cost. This is particularly notable for an integrated material handling system where any one station can require as many as ten cordsets.

Additional features:

- M12-compatible Ultra-Lock® Connection System ensures secure connections
- Rated to IP67 when connected to cordsets
- IP69K-rated stainless steel model can take plant sanitation wash-downs up to 1500 psi
- Designed to withstand vibration and mechanical shock in the harshest environments
- Integrated home run (output) cable.

\* Profibus and Profinet are trademarks or registered trademarks of Profibus International.

† DeviceNet is a trademark of Open DeviceNet Vendor Association (ODVA).

‡ CANopen is a registered trademark of CAN in Automation (CIA).

§ Modbus is a registered trademark of Schneider Automation Inc.

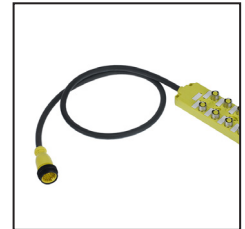
\*\* Teflon is a registered trademark of E. I. du Pont de Nemours and Company or its affiliates.



**BRAD® HARSH-DUTY IO MODULE**



**MICRO-CHANGE® M12 SENSOR CORDSETS**



**BRAD® MPIS® DISTRIBUTION BOX WITH M12-COMPATIBLE ULTRA-LOCK® CONNECTIONS**



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