Connector System Delivers Superior Signal Integrity

Molex Incorporated introduces the robust Brad Micro-Change® M12 Cat6A connector system designed for vision systems and other high-speed data transfer applications in harsh environments. Conforming to TIA and ISO/IEC Cat 6A specifications for high-speed Ethernet signal integrity up to 10Gbps, the high-pin-density Micro-Change connector system features an innovative x-coding cross-shielding design (conforms to IEC 61076-2-109) for superior performance and transmission reliability in frequency bandwidths up to 500Mhz.

“The Brad Micro-Change Cat 6A connector was developed to provide faster Ethernet speeds in a rugged M12 format ideal for high-speed data transfer in harsh commercial and industrial applications,” states Ted Szarkowski, product manager, Molex. “Conventional M12 connectors only support Cat 5e Ethernet up to 10/100Mbps. The Micro-Change system is a significant advancement in the M12 form factor—both in terms of speed and superior signal-integrity values.”

The compact, sealed Micro-Change connector system features a complete 360 degree shielded design using 4-twisted pair construction. When mated, the shielding crosses of the connector and receptacle overlap to achieve optimal signal performance without system noise interference. X-coding alignment enables blind mating and recessed male pins prevent pin damage during mating. The Brad Micro-Change connector system mounts using a standard M12 threaded coupling nut. 26 AWG cable assemblies and corrosion resistant hardware assure optimal reliability in demanding environments. Rugged construction and IP67-rated external and internal o-ring seals guarantee protection against dust and water.

Designed for video surveillance cameras, telematics, GPS/cameras in automotive and commercial vehicles, and automated control elements, Brad Micro-Change connectors enable fast and simple replacement of 12 to 18mm sensors, encoders, switches and other I/O devices found in industrial equipment. Available in 2- through 5-, 8- and 12-pole IEC compliant configurations, single- and dual-keyway designs, with straight and 90 degree plugs, versatile

Micro-Change connectors are equally suitable for Class 2 applications. The Micro-Change sealed connection delivers superior EMI/RFI shielding in high-vibration systems, including petrochemical, factory-automation and commercial-vehicle equipment. Receptacles are tooled for both network connectivity in Ethernet and Controller-Area Network (CAN bus) protocols, in addition to passive applications such as discreet and analog sensor applications.

“Enabling smaller enclosures in high-speed, high-signal integrity applications, the compact Micro-Change connector is fully compatible to replace sealed RJ-45 connectors that are twice the size of the M12 form factor,” adds Szarkowski.

Molex Incorporated
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