Industrial RJ45 modular plug touts robust design and quick, easy field assembly

A new modular plug for industrial Ethernet applications is asserted to help system designers reduce assembly time and minimize connector replacement costs while providing highly reliable connections. The 3M Industrial RJ45 Modular Plug, now available in the U.S. from the 3M Electronic Solutions Division, is based on the RJ45 registered jack standard for eight-conductor modular connectors (also known as 8P8C). The plug was developed specifically for Ethernet applications in harsh industrial IP 20 environments where double-shielded enhanced category 5 cabling is used. Applications include industrial machinery, programmable logic controllers (PLC), servo motor drivers, remote I/Os, human machine interfaces (HMI), industrial computing, industrial robots and inspection cameras. The RJ45 Modular Plug incorporates 3M insulation displacement contact (IDC) technology, first developed for electronic applications by 3M more than 50 years ago. IDC technology allows quick and easy termination without the need to strip the insulation off of wires. Easy field installation eliminates the need for precise cable lengths. The plug's "easy-adjust" feature helps thread the twisted pairs into place without unwinding them, helping to maintain signal integrity and further shortening assembly time.

The RJ45 Modular Plug can tolerate harsh environments where vibration, extreme temperatures and high humidity occur. The plug's rugged design includes a robust latch structure built to withstand frequent insertion and withdrawal cycles, reducing the likelihood of latch breakage and minimizing the need to replace broken connectors. Its four-sided shielding protects against electrical noise, helping prevent data errors and damage to hardware. A screw-type cable clamp on the plug ensures strong cable retention.

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