

## **X UltraJax Plus Connectors**

### **The New Interface That Withstands Harsh Environmental Conditions**

Traditional RJ connectors provide customers years of reliable service in the typical office environment. However, put the same connectors in a harsh environment and the connectors can fail and or disrupt your network connection. Exposing RJ connectors to extreme conditions such as temperature, moisture, electromagnetic interference, dust or vibration and performance and reliability are reduced. The life of a normal RJ connector is normally 500 to 1000 insertion cycles. Harsh environments where exposure to these elements is a daily occurrence will result in transmission failures. In a poor environment the typical mated connection of a female RJ45 outlet and a male RJ45 plug may wear, and corrode. In the end, customers are faced with high maintenance costs due to trouble shooting and component replacement.



UltraJax Plus RJ connectors are a solution to this problem. UltraJax Plus is a new breed of connector designed to deliver a robust Ethernet connection in even the harshest environments. UltraJax Plus connectors are tougher, stronger, durable and more resistant than any previous Ethernet connector. UltraJax Plus connectors are designed to withstand the most punishing industrial conditions and applications which include high cable stress. In cable structures of today care must be taken to not bend the cable immediately at the point where the male RJ connector is inserted into the female. With UltraJax Plus this type of sharp bending can be applied and still maintain the integrity of the connector.

### **Benefits and Features of the UltraJax Plus extend beyond just the Environment in the Premise Market**

Key advantages of the UltraJax Plus connectors include superior resistance to moisture and liquids and the elimination of traditional RJ connectors spring action contact pins. The UltraJax Plus uses no metal parts inside the connector except for contact pads on a printed circuit board inside the UltraJax Plus insertion cavity. The printed circuit board design feature increases the mating cycle rate of the connector dramatically over traditional RJ connector while reducing the exposure risks to environmental elements. The contact pads on the printed circuit board of the UltraJax Plus are chemically treated to reduce the risk to corrosion. The UltraJax Plus female connectors can have chemical coating and the contact pads also can have a high density nickel and gold plating.

UltraJax Plus connectors are made to provide the greatest possible environment protection of a connector which is not a sealed connector. Most office environments do not need harsh environmental connectors, however this added protection will improve protection of securing a users network and cable structure. UltraJax Plus are designed to withstand the rigors of harsh environment of moisture expose as well as extreme vibration. The UltraJax Plus connectors have the protection features of many sealed connectors which have resistance levels to solid materials and resistance to liquid contaminants.

TR-42.9 sealed connectors protect against ingress of dust and from temporary immersion in water. UltraJax Plus connectors also protect against these elements. In addition, UltraJax Plus connectors are designed to resist exposure to other elements listed below.

*Humidity / Moisture:*

Traditional RJ connectors exposed to moderate humidity corrodes over time. Corrosion leads to intermittent transmission problems. In severe cases, contact pins within an outlet can break from corrosion. UltraJax Plus connectors resist moisture and humidity by means of unique printed circuit board design with contacts pads plated with nickel, gold and a water resistant chemical covering.

*Corrosive Materials:*

Exposure to corrosive gases and liquids is not common in office situations. In industrial situations these elements are common and traditional RJ connectors should not be used. Oil, gas, and chemicals can eat away at the outside connector housing, plug and jack metal contacts. UltraJax Plus connectors are designed without metal contact pins which can corrode.

*Temperature Extremes:*

Current RJ connectors are manufactured to tolerate temperatures between -10° C (14° F) and 60° C (140° F), typical of most office and light industrial environments. However, it is common in harsh environments for temperatures to exceed this range for an extended period of time. This expanded temperature range causes transmission failures and reliability issues. UltraJax Plus connectors are available with multiple temperature rating options. The high temperature option is rated between -40 degrees F to +85 degrees F.

*Vibration:*

Standard RJ connectors react in a consistent manner when exposed to extreme vibration. Over time, the contacts in a modular plug wear against the pins in an outlet. Pins become pitted at the contact point and bend point which degrades reliability. UltraJax Plus has no metal contacts and uses a new technology design with a printed circuit board replacing the metal contacts. Movement of the UltraJax Plus male cable plug against the contacts pads on the printed circuit board is designed to withstand vibration by use of a keying mechanism in the UltraJax Plus. The UltraJax Plus mating design resists vibration by maintaining the plug's relative position to the outlet. UltraJax Plus connectors do not have contact pins which allow the plug to shift with vibration and break the pins.

*Electromagnetic Interference (EMI):*

Heavy EMI is common in environments where manufacturing equipment or electrical pathways are close to data pathways. Machinery and electrical pathways generate electrical fields, which cause noise to couple onto the data pathways and compromise the integrity of data signals. The UltraJax Plus connector design of a printed circuit board eliminates many of the problems of traditional RJ connectors with contact pins. The UltraJax Plus data pathways are in the protected layers of printed circuit board inside the cavity of the UltraJax Plus female connector.

## **UltraJax Plus - Industrial Connectivity for the Premise Market**

Increasingly, customers of RJ connectors are challenged by the environments they need to place their equipment. There may be equipment locations required which are environmentally problematic and UltraJax Plus connectors will provide the functionality you require. More and more products are being used in locations subject to temperature extremes, vibration and moisture. UltraJax Plus connectors are designed to resist these elements and at the same time provide a connector which reduces the size and functionality of traditional RJ connectors. Other connectors offered for harsh environments do not mount well to products and have dimensions which require additional space. One UltraJax Plus connector is equivalent to two traditional RJ45 connectors. Therefore UltraJax Plus users can reduce the space required for connectors in half.

Today, when designers or installers are faced with environmental problems, some decide to install traditional connectivity and hope for the best. Many RJ connector offerings for harsh environments are costly and provides limited protection.

### **UltraJax Plus - Industrial Connectivity for Factory Floor Use**

An evolution is taking place in the manufacturing market that is driving the need for robust connections on the factory floor. Many manufacturers are in the process of implementing Enterprise Resource Planning (ERP) initiatives, which streamline operations, improve product availability, and reduce production costs. The key to implementing an effective ERP solution is access to accurate, real-time data. Unfortunately, most manufacturing equipment in use today does not have the capability of collecting and communicating data seamlessly from the plant floor to an enterprise's network. Today ERP has new solutions with leading manufacturers of automation production equipment offering solutions such as EtherNet/IP for control on the plant floor, system configuration, and to collect data for ERP applications. Recent estimates predict that by 2008 more than 28% of new manufacturing equipment will have an Ethernet connection. When this generation of production equipment enters the market, the factory floor will become a seamless extension of an organization's network.

Applications which have extreme environment needs for UltraJax Plus include Refineries, Automotive facilities, Marine areas, Windmill plants, Mining, and Manufacturing plants. For these industries, moisture, corrosive gases and liquids, extreme sources of EMI from robotic equipment, vibration, high temperatures, and humidity are common. UltraJax Plus is a robust industrial RJ connector which is the best solution to link between the factory floor and ERP applications.

### **UltraJax Plus Connectors Are The Best Solution For Harsh Environments**

The UltraJax Plus's body has a unique printed circuit board style RJ connector which mates contact pads on the PCB of the female UltraJax Plus connector to the UltraJax Plus male plug. The UltraJax Plus male plug is inserted into the UltraJax Plus female cavity, and with a simple snap the tab secures the connector in place. However the UltraJax Plus has unique design over traditional RJ connectors to hold the male connector and cable in place. UltraJax Plus female and male connectors have a special inter locking mechanism to secure the male to the female and provide stress relief far beyond traditional RJ connectors. Once the UltraJax Plus plug and outlet are engaged they can withstand the stress of heavy cables and vibration from an harsh environment. The UltraJax Plus connections are fast, easy and provides a superior locked connection.

### **UltraJax Plus Is The Future For Office and Industrial Connectors**

UltraJax Plus connectors provide a connector for both the office and the factory floor. UltraJax Plus provides one network solution for all areas of an enterprise's operation regardless of the environments. Call today for samples and you can evaluate the best solution for your networking and cabling system needs.

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