

IndustrialNet™ TX5e™ Connectors

PANDUIT®

SPECIFICATION SHEET

specifications

8-position, industrial connectors shall be applicable for use in manufacturing environments and shall meet/exceed the ANSI/TIA-568-C.2 standard for Category 5e performance requirements. Bulkhead RJ45 jack and plug shall incorporate an IP67/68 rated seal and shall be designed to provide protection from dust and temporary immersion in water typically found in harsh industrial environments. Tethered protective cap shall ensure IP67/68 protection of the connector and plug in the unmated condition. Secondary seals on both the connector and plug shall provide an additional environmental barrier. Termination to a 4-pair 24 AWG 100 ohm twisted pair cable shall not require the use of a punchdown tool. An IP67/68 rating shall be achieved when mated with an IP67/68 and NEMA UL Type 12, 6/6P, 4X industrial grade, bayonet style patch cord.



technical information

| | |
|---|--|
| Category 5e/Class D channel and component performance: | Exceeds channel and component requirements of ANSI/TIA-568-C.2 Category 5e and ISO11801 Class D standards at swept frequencies 1 to 100 MHz |
| Electrical/mechanical performance: | Meets all ODVA Ethernet/IP [^] electrical and mechanical performance requirements |
| Environmental protection: | Protects and seals connections against dust and water immersion to ANSI/IEC 60529-2004 Vibration, temperature and chemical resistant; shielded version further enhances electromagnetic performance |
| FCC and ANSI/TIA compliance: | Meets ANSI/TIA-1096-A; contacts plated with 50 microinches of gold for superior performance |
| IEC compliance: | Plug meets IEC 60603-7 specifications |
| IP compliance: | Rated IP67/68 for dust protection and temporary liquid immersion |
| NEMA/UL compliance: | Rated UL Type 12, 6/6P, 4X |
| Packaging: | Connector and plug include protective cap |
| RoHS compliancy status: | Compliant |
| PoE compliance: | Meets IEEE 802.3af and IEEE 802.3at for PoE applications |
| Conductor termination range: | Wire cap compatible with 22 – 26 AWG solid or stranded cable with conductor insulation diameters of 0.060 in. max. and overall cable O.D. 0.200 in. to 0.330 in. |

key features and benefits

| | |
|--|--|
| Bulkhead anti-rotation washer | Eliminates the potential for module rotation |
| Connector mounting nut | Holds bulkhead safely and securely from inside of enclosure |
| Robust construction | Plug contact plated with 50 microinches of gold |
| Bayonet style interface | Provides positive reinforcement during mated condition; rated to 100 mating cycles |
| Protective cap | Maintains IP67/68 seal during unmated connection |
| Utilizes patented Giga-TX™ Technology | Optimizes performance by reducing conductor untwist to less than 1/8" |
| Forward motion termination | Speeds installation and places no impact on critical components for maximum reliability |
| Industry standard RJ45 interface | Familiar to end users |
| No punchdown tool required | Can terminate with standard adjustable slipjaw pliers or optional termination tool (EGJT) |
| Universal wiring scheme | Termination cap is color coded for T568A and T568B wiring schemes |
| Standard mounting | Bulkhead connector fits into optional faceplate as well as standard IEC 1-13/64" (30.5mm) diameter mounting hole |

applications

IndustrialNet™ TX5e™ Connectors provide an ideal solution to support Industrial Ethernet from the Local Area Network (LAN) based support offices to the processing devices on the plant floor. The Bulkhead RJ45 Industrial Ethernet Connector is a key component to an overall Industrial Ethernet application. In most designs, the bulkhead connector will be the interface that protects the integrity of the Ethernet data transfer from the switch, and PLC out to the devices or up to the horizontal plant backbone. The connectors provide IP67/68 protection for work cells requiring wash down -

common in the food and beverage industry where bacterial contamination is present. The bulkhead connector also offers high temperature resilience, namely 85°C storage and 70°C operating. In manufacturing facilities such as metal processing, welding, and chemical batch processing, high temperatures are normal. Vibration is also a concern, as in automotive panel stamping plants and work cells. The IndustrialNet™ TX5e™ Connectors protect the RJ45 mating even in the most severe vibration applications.

IndustrialNet™ TX5e™ Connectors

| | |
|------------------------|----------|
| UTP: | IAEBH5E |
| Shielded: | IAEBH5ES |
| Coupler module: | IAEBHC5E |

IndustrialNet™ TX5e™ Modular Plugs

| | |
|------------------|----------|
| UTP: | MPI588T |
| Shielded: | MPSI588T |

IndustrialNet™ TX5e™ Patch Cords

| | |
|--------------------------|-----------------|
| UTP with caps: | IUTPCH3BL*Y |
| UTP without caps: | IUTPCHNC3BL*Y |
| STP with caps: | ISTPCH1MBL**Y |
| STP without caps: | ISTPCHNC1MBL**Y |

IndustrialNet™ Stainless Steel Faceplates

| | |
|---------------------|-----------|
| Single gang: | IAEFP1 |
| Double gang: | IAEFP2-2G |

Tools and Accessories

| | |
|-------------------------------------|-------|
| Empty bulkhead: | IAEBH |
| Termination tool (optional): | EGJT |
| Wire snipping tool: | CWST |
| Wire stripping tool: | CJAST |

*For lengths 5, 7, 10, 15, or 20 feet, change the length designation in the part number to the desired length. For example, the part number for a 7-foot, UTP patch cord is IUTPCH7BLY.

**For lengths 2, 3 or 5 meters, change the length designation in the part number to the desired length. For example, the part number for a 5-meter, shielded patch cord is ISTPCH5MBLY.

[^]EtherNet/IP is a trademark of ODVA.

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Test Results

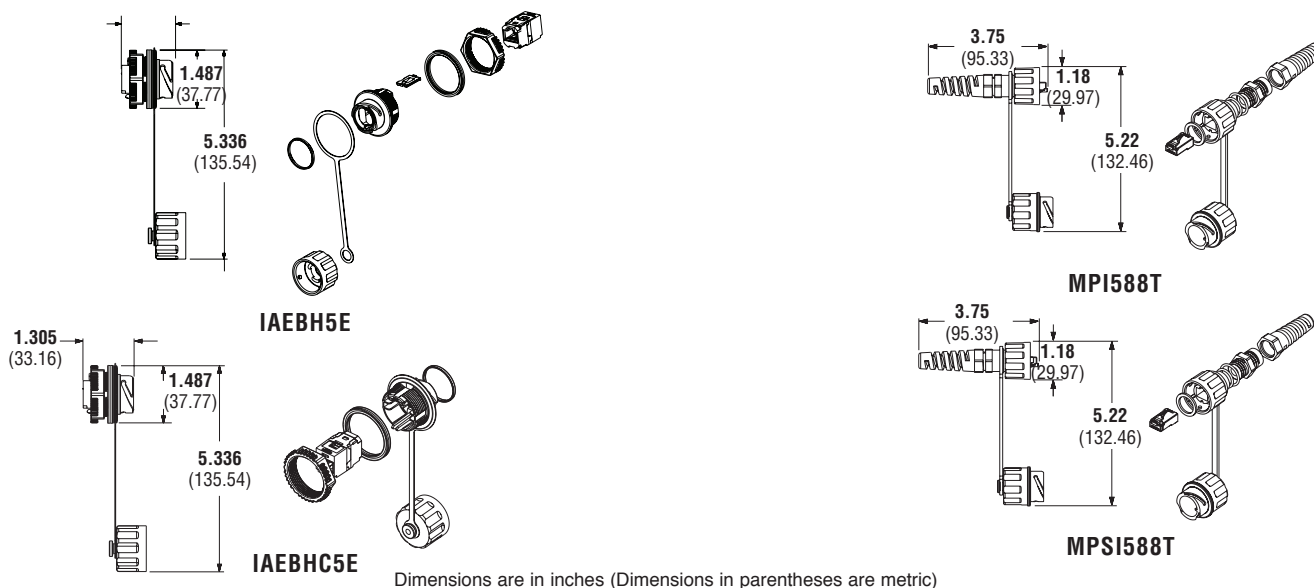
| Performance Test | Test Method | 100MHz Required Performance (dB) | 100MHz Typical Test Results (dB) |
|--------------------|---|----------------------------------|----------------------------------|
| <i>NEXT</i> | Additional Transmission Performance Specifications for 4-pair ohm Category 5e Cabling, ANSI/TIA-568-C.2 | > 43 | >45 |
| <i>FEXT</i> | | > 35 | >37 |
| <i>Attenuation</i> | | < 0.40 | <0.10 |
| <i>Return Loss</i> | | > 20 | >30 |

Consult technical support for cable brand specific channel test results.

| Mechanical Test | Test Method | Measurement | Required Performance |
|------------------------|-------------|-----------------------------------|----------------------|
| <i>Normal Force</i> | — | Load (grams) | >150 |
| <i>Vibration</i> | IEC 512-6d | Circuit Resistance Change (mOhms) | <1 |
| <i>Shock</i> | IEC 512-6c | Contact Disturbance (microsecond) | <1 |
| <i>Durability</i> | IEC 512-9a | Circuit Resistance Change (mOhms) | <5 |
| <i>Mating/Unmating</i> | IEC 512-13b | Mating Force (N) | <15 |
| | | Unmating Force (N) | <15 |

| Mechanical Test | Test Method | Measurement | Required Performance |
|-------------------------------------|-------------|--------------------|----------------------|
| <i>Low Level Circuit Resistance</i> | IEC 512-2a | Resistance (mOhms) | <5 |
| <i>Dielectric Withstand Voltage</i> | IEC 512-4a | 1000VAC, 1 minute | Passed |
| <i>Insulation Resistance</i> | IEC 512-3a | Resistance (MOhms) | >1000 |

| Mechanical Test | Test Method | Measurement | Required Performance |
|------------------------------------|-------------|-----------------------------------|----------------------|
| <i>Temperature Life</i> | IEC 512-9b | Circuit Resistance Change (mOhms) | <1 |
| <i>Humidity</i> | IEC 512-11c | Circuit Resistance Change (mOhms) | <2 |
| <i>Thermal Shock</i> | IEC 512-11d | Circuit Resistance Change (mOhms) | <5 |
| <i>Climactic Sequence</i> | IEC 512-11a | Circuit Resistance Change (mOhms) | <5 |
| <i>Flowing Mixed Gas Corrosion</i> | IEC 512-11g | Circuit Resistance Change (mOhms) | <5 |



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