5 Types of Fiber Optic Patch Cord Interfaces



Overview

MTRJ type fiber optic patch cord consists of two high-precision plastic molded connectors and fiber optic cables.

Key Takeaways

The five common fiber optic patch cord interfaces are SC, LC, ST, FC, and MT-RJ, each designed for specific applications and connector mechanisms.1. SC (Subscriber Connector)

The SC connector features a rectangular, push-pull design that is easy to insert and remove. It is widely used in GBIC optical modules, routers, and switches. SC connectors are reliable, dust-resistant, and suitable for high-density applications, though they are considered somewhat legacy in modern data centers compared to LC connectors .

2. LC (Lucent Connector)

The LC connector is a small form factor connector with a modular jack latch mechanism, commonly used for SFP modules and high-density data center applications. Its compact size allows for duplex connections and high port density, making it ideal for modern network equipment .

3. ST (Straight Tip)

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The ST connector uses a round, bayonet-style design with a twist-lock mechanism. It is often found in optical fiber distribution frames and older network installations. ST connectors are reliable and easy to handle but are gradually being replaced by LC and SC connectors in high-density environments .

4. FC (Ferrule Connector)

The FC connector has a metal sleeve and a screw-on fastening mechanism, providing a secure connection. It is typically used on the ODF side or patch panels in telecom and laboratory setups. FC connectors are known for their durability and low signal loss, making them suitable for precision applications .

5. MT-RJ (Mechanical Transfer – Registered Jack)

The MT-RJ connector is a compact, square connector that integrates a dual-fiber transceiver. It uses a push-pull clamping mechanism and is suitable for indoor telecom and data network systems. MT-RJ connectors allow for duplex connections in a small form factor, supporting high-density installations .

Summary

Each fiber optic patch cord interface has unique characteristics:

• SC: Rectangular, push-pull, legacy but reliable.

• LC: Small form factor, high-density, SFP compatible.

• ST: Round, bayonet, common in older networks.

• FC: Screw-on, precise, low-loss, used in labs/ODFs.

• MT-RJ: Compact, dual-fiber, high-density indoor use. Choosing the right interface depends on device compatibility, network density, and application requirements, ensuring optimal performance and reliability in fiber optic networks .

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LC fiber optic patch cords, with their compact connectors with a diameter of 1.25mm, have

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