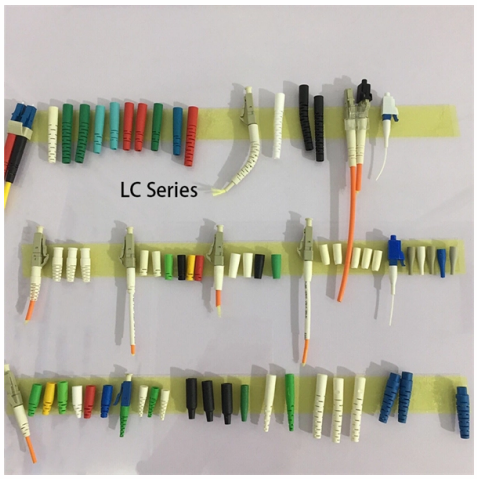
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Classification Standards for Fiber Optic Patch Cord Connectors



Overview

Fiber Optic Patch Cable Types There are different types of fiber optic patch cord according to different standards.

Key Takeaways

Fiber optic patch cord connectors are classified by connector type, assembly style, ferrule size, and fiber mode, with common types including LC, SC, FC, MPO, and MTP.Connector Types

1. LC (Lucent Connector)

• Small form factor (SFF) connector with a 1.25mm ferrule.

• Keyed and pull-proof, ideal for high-density installations in data centers.

• Supports duplex and simplex configurations. 2. SC (Subscriber Connector / Standard Connector)

• Rectangular push-pull design with a 2.5mm ferrule.

• Easy to install, moderately pull-proof, commonly used in PONs and telecom networks.

• Available in duplex, quad, and six-pack configurations for higher port density. 3. FC (Ferrule Connector)

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• Metal ferrule with a screw-on locking mechanism.

• Provides robust, dustproof, and vibration-resistant connections.

• Often used in single-mode telecommunications and optical distribution frames. 4. MPO/MTP (Multi-Fiber Push On / Multi-Fiber Termination Push On)

• High-density connectors for parallel optics, supporting 12–24 fibers per connector.

• MPO is the standard; MTP is a brand with improved latching and alignment.

• Common in 100G+ and 400G data center applications. 5. Other Connectors

• ST (Straight Tip): Bayonet mount, used in legacy networks.

• MDC/CS: Compact duplex connectors for ultra-high-density 400G/800G networks.
Assembly Styles
• Simplex: Single connector on one fiber strand.

• Duplex: Two connectors side by side, often joined in a “zip cord” configuration.

• Assembly style is independent of fiber mode or connector type but affects cabling layout and equipment compatibility.
Fiber Mode Considerations
• Single-Mode (SM): 9µm core, long-distance, high-bandwidth applications.

• Multimode (MM): 50µm or 62.5µm core, short-distance, intra-data center links.

• Connector choice must match fiber mode to avoid signal loss.
Ferrule and Polish Types
• Ferrule Size: LC (1.25mm), SC/FC (2.5mm).

• Polish Types: UPC (Ultra Physical Contact) for low back reflection, APC (Angled Physical Contact) for minimal return loss in high-precision applications.
Summary

Fiber optic patch cord connectors are classified based on connector type, assembly style, ferrule size, polish type, and fiber mode. Choosing the right connector ensures low signal loss, high reliability, and compatibility with network equipment, whether for telecom, data centers, or high-speed enterprise networks. Proper selection also considers density requirements, environmental conditions, and future scalability. Key references for these classifications include LC, SC, FC, MPO/MTP connectors, simplex/duplex assembly styles, and single-mode vs multimode fiber distinctions .

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