

LC patch cord and fiber optic cable connection methods

Article Overview

LC patch cords cannot be directly connected to bare fiber; they require proper termination, adapters, or pigtails to interface with fiber optic cables.

Understanding LC Patch Cords

An LC patch cord is a fiber optic cable with LC connectors on both ends, designed for short-distance connections between devices such as switches, transceivers, and patch panels . LC connectors use a 1.25 mm ferrule and are widely adopted for their compact size and high port density . They are available in single-mode (OS1/OS2) and multimode (OM1-OM5) variants, and can be simplex or duplex .

Why Direct Connection to Bare Fiber Isn't Possible

Bare fiber cables do not have pre-installed connectors. LC patch cords are pre-terminated, meaning their ferrules are designed to mate with another LC connector or adapter, not raw fiber. Attempting to connect a patch cord directly to bare fiber would result in:

- High insertion loss due to misalignment of the fiber cores
- Signal reflection and degradation
- Physical damage to the ferrule or fiber endface

Proper Methods to Connect LC Patch Cords to Fiber

- Using Fiber Pigtails: A fiber pigtail is a short fiber with an LC connector on one end and bare fiber on the other. The bare fiber is spliced to the main fiber cable, allowing the LC patch cord to connect seamlessly .
- Using LC Adapters: If both fibers are terminated with LC connectors, an LC adapter can join them, ensuring proper alignment and minimal signal loss .
- Splicing and Termination: For custom installations, bare fiber can be fusion-spliced to a pigtail or terminated with an LC connector using specialized tools and polishing techniques .

Key Considerations

- Mode Compatibility: Ensure single-mode patch cords connect to single-mode fiber and multimode to multimode to avoid signal loss

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LC-LC Fiber Optic Patch Cord

DESCRIPTIONS Fiber optic patch cord is also called fiber optic connector. It is dismountable, flexible and featured with small size,

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Fiber Optic Cable Assemblies | Fiber Patch Cords and Fiber Jumpers ...

Corning offers the most complete line of connectors and factory-terminated cables, from single-fiber patch cords to high-fiber-count

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Optical fiber connector

An optical fiber connector is a device used to link optical fibers, facilitating the efficient transmission of light signals. An optical fiber

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The FOA Reference For Fiber Optics

Fiber optic joints or terminations - where cables are terminated - are made two ways: 1) connectors that mate two fibers to create a

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Standard Fiber Patch Cables Datasheet For High-speed data center network equipments connections Designed for data center,

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In duplex serial optics, structured cabling, client connections, PON, DWDM, and hybrid

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A Complete Guide to Understanding LC UPC Patch Cords

LC UPC patch cords are specialized cables designed to interconnect telecommunication

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