LC to SC interface fiber optic

Overview

Learn how to select and test LC, SC, and ST connectors for reliable fiber optic cable assemblies. Includes polish types, OFC specs, and transceiver pairing tips.

Key Takeaways

You can connect an LC interface to an SC interface using an LC-to-SC fiber optic patch cable or an LC-to-SC adapter.

Overview of LC and S

C ConnectorsLC Connector: Features a 1. 25 mm ferrule and a push-pull latch, designed for high-density applications such as SFP/SFP+ transceivers and modern patch panels. It is compact and supports duplex connections in a small footprint, making it ideal for data centers and enterprise networks.

S

C Connector: Uses a 2. 5 mm ferrule with a square snap-in housing. It is widely used in enterprise, FTTH, and legacy networks.

S

C connectors are easy to plug and unplug and are common in telecom and CATV installations.

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Methods to Connect L

C to SCLC-to-SC Patch Cable (Hybrid Jumper)A pre-terminated fiber optic cable with an LC connector on one end and an SC connector on the other. Available in single-mode (OS2) or multimode (OM3/OM4/OM5), and in duplex or simplex configurations depending on your network requirements. Ensures proper alignment and minimal insertion loss without additional adapters.

LC-to-SC AdapterA small coupler that allows an LC connector to mate with an SC connector. Useful when you already have existing LC and SC patch cords and want to bridge them without replacing cables. Adapters are available in UPC (blue) or APC (green) polish to match the fiber type and minimize back reflection.

Considerations

Fiber Type Compatibility: Ensure both ends use the same fiber type (single-mode or multimode) to avoid signal loss or reflection issues. Polish Type: Match UPC or APC polish on both connectors to maintain low return loss, especially in high-performance networks. Duplex vs Simplex: LC and SC connectors can be duplex (two fibers) or simplex (single fiber).

Make sure the patch cable or adapter matches your system configuration. Insertion Loss: Hybrid cables and adapters introduce minimal insertion loss, but proper cleaning and handling are essential to maintain signal quality.

Practical Use Cases

Connecting a modern SFP transceiver with LC ports to a legacy SC patch panel. Bridging enterprise LAN fiber runs where different connector standards were deployed over time. Testing or temporary connections in FTTH or telecom networks where LC and SC coexist.

By using a hybrid LC-to-SC patch cable or adapter, you can seamlessly connect devices with different fiber interfaces while maintaining network performance and minimizing signal degradation.

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Article Content

Fiber Optic Cable Assembly Guide | LC, SC & ST Connectors Explained

Learn how to select and test LC, SC, and ST connectors for reliable fiber optic cable assemblies. Includes polish types, OFC specs, and transceiver pairing tips.

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LC vs SC Fiber Connectors: Key Differences Explained

Compare LC vs SC fiber connectors, including ferrule size, insertion loss, SFP compatibility, and applications in FTTH and data center networks.

LC vs SC Fiber Connector – Key Differences Explained (2026)

Think of the LC connector as the microchip of fiber interfaces: compact, efficient, and ideal for high-density environments. In comparison, SC connectors serve better in settings where space

LC vs SC Fiber Connector – Key Differences Explained

Explore LC vs SC fiber connector types to understand their uses, benefits, and compatibility in fiber optic network setups.

Fiber Connector Types

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SC to LC adapter assemblies can help connect an SC connector to an LC optical connector. The SC-LC fiber which separately terminates an SC

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White Optical Fiber FTTH Panel With Two SC Adapter Interfaces

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