Duplex Fiber Optic Single-Mode lc



Overview

Learn what an SFP duplex LC connector is, how it works in optical transceivers, and why it is widely used in fiber networks for reliable full-duplex communication.

Key Takeaways

Duplex Single-Mode LC connectors are compact, dual-fiber connectors designed for bidirectional optical communication in high-speed networks.

Overview

A Duplex L

C connector integrates two LC (Lucent Connector) interfaces in a single housing, allowing one fiber to transmit (TX) and the other to receive (RX) optical signals.

The L

C form factor uses a 1. 25 mm ceramic ferrule, smaller than the SC connector, enabling high-density port layouts in data centers and telecom equipment.

Duplex L

C connectors are widely used with single-mode fiber (SMF) for long-distance, low-loss optical transmission, supporting Ethernet speeds from 1G to 400G. Key FeaturesDual-Fiber Design: Supports simultaneous bidirectional communication, essential for Ethernet and telecom links. Compact Form Factor: Small size allows high-density patch panels and SFP/SFP+/SFP28 transceiver compatibility.

Polish Types: UPC (Ultra Physical Contact): Flat polish, return loss ~ -50 dB, typically blue.

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AP

C (Angled Physical Contact): 8° angled polish, return loss ~ -60 dB, typically green, used in DWDM and CATV applications. Connector Variants: Uniboot LC (both fibers in a single jacket), polarity-reversible LC, and pull-tab LC for easier handling in dense panels.

Applications

Data Centers: High-density patch panels and SFP transceivers for 1G, 10G, 25G, 40G, 100G, and 400G Ethernet. Telecommunications: Long-distance single-mode fiber links, supporting distances up to 10 km at 1310 nm and 40 km at 1550 nm. Enterprise Networks: Backbone and distribution layer connections requiring reliable bidirectional communication.

Advantages

Low Insertion Loss: Ensures minimal signal degradation over long distances. High Return Loss: Reduces reflections, critical for single-mode applications. Ease of Installation: Push-pull latch design simplifies mating/unmating in crowded panels.

Compatibility: Works with both single-mode and multimode fibers, though single-mode is preferred for long-distance, high-speed links.

Summary

Duplex Single-

Mode LC connectors are the standard choice for high-performance optical networks requiring bidirectional communication, compact form factor, and reliable long-distance transmission. They are essential in modern data centers, telecom networks, and enterprise backbones, providing efficient, low-loss connections compatible with a wide range of SFP optical modules and patch panels.

Article Content

Duplex LC Connector: Design, Fiber Types, and Best

This article explains what Duplex LC connectors are, how they work, the difference between single-mode and multimode use, how to choose and

Singlemode Duplex LC Connectors Fiber Optic Connectors

Mouser offers inventory, pricing, & datasheets for Singlemode Duplex LC Connectors Fiber Optic Connectors.

What is the difference between lc and duplex lc?

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LC is a single connector, while duplex LC consists of two LC connectors housed in a single housing. Both connectors offer reliable and efficient fiber optic

LC Singlemode Duplex Fiber Optic Connectors – Mouser

Mouser offers inventory, pricing, & datasheets for LC Singlemode Duplex Fiber Optic Connectors.

What Is an SFP Duplex LC Connector in Fiber Networks

Learn what an SFP duplex LC connector is, how it works in optical transceivers, and why it is widely used in fiber networks for reliable full-duplex communication.

Fiber Optic, Patch Cord, Single Mode, Duplex, LC-LC, 1 Meter

Fiber Optic, Patch Cord, Single Mode, Duplex, LC-LC, 1 Meter Length Request a Quote Brand: Hubbell Premise Wiring Catalog ID: DFHPCLCLCS1SM

TMT Single Mode LC-LC/UPC Duplex 3M Tight Buffered Fiber Optic

Single Mode LC-LC/UPC Duplex 3M TMT GLOBAL High Quality and Cost-effective SM,MM Simplex Fiber Patch Cord Patch Cords are used to provide optical connection for fiber optic electronics. The

Fiber Optic Patch Cable, LC to LC, Single Mode 9/125, Duplex

LC to LC Fiber Patch Cable with Single Mode 9/125 Duplex Cables These high speed single-mode 9/125µm duplex fiber optic patch cables are terminated with LC fiber optic connectors on both ends

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Fiber Optic Cable, Single Mode, 9/125 Duplex, SC to LC, 6.6ft

Fiber Optic Cable, Single Mode, 9/125 Duplex, SC to LC, 6.6ft $12.75$14.99 15% off Purchase at We-Supply

Pigtail LC Duplex Single Mode 9/125 Um 2.0MM

Fiber optic pigtail is one of most commonly used components in fiber optic network. Features Connector Type: LC to Raw Fiber (Pigtail) Strand Count: Duplex 2.0mm fiber Core/Cladding Diameter: Single

StarTech 30m (98.4ft) LC to SC (UPC) OS2 Single Mode Duplex Fiber Optic ...

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OS2 LC to SC Single Mode Duplex Fiber Optic Patch cable facilitates connectivity across 100G networks. It supports Coarse Wavelength Division Multiplexing (CWDM) across an extended

Planar 200m Single Mode LC-LC Fiber Optic Cable

Product Overview This Planar fiber optic cable is a 656-foot (200-meter) OS2 single-mode duplex LC-to-LC terminated cable with a plenum-rated 2mm jacket. It provides long-distance signal transport for

StarTech 8m (26ft) LC to SC (UPC) OS2 Single Mode Duplex Fiber Optic ...

StarTech 8m (26ft) LC to SC (UPC) OS2 Single Mode Duplex Fiber Optic Cable, 9/125, 100G, Low Insertion Loss, LSZH Fiber Jumper Cord - SMLCSC-OS2-8M Chat for Availability 15567414 $64.20

LSH-LC G.657.A Singlemode Fiber Duplex Patch cord

With laser-optimized Single-mode fiber from the BlueOptics brand. All BlueOptics patch cables are SFP3138 compatible and support all common applications for optical connections. BlueOptics

200-Meter 9u/125u Fiber Optic Patch Cable Singlemode Duplex LC to LC ...

3D HD Gear specializes in professional grade Fiber Optic Cables including the Hybrid Fiber 200-Meter 9u/125u Fiber Optic Patch Cable Singlemode Duplex LC to LC. Shop securely online!

Planar OS2 Single Mode LC Fiber Cable – 197ft

Product Overview This Planar OS2 fiber optic cable is a 197-foot (60-meter) single-mode duplex assembly terminated with LC-to-LC connectors in an A-B configuration. Built on 9/125um OS2 single

Single-Mode Fiber Optic Cable 50m LC-SC Duplex OFNR

High-speed 50m Single-Mode Fiber Optic Cable with LC-SC connectors. Ideal for data centers and commercial use. Shop now.

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