

Lc interface single-mode module



Overview

Learn how to choose the right SFP LC Single Mode transceiver for distance, compatibility, fiber type, and stable network performance.

Key Takeaways

An LC interface single-mode module is a fiber optic transceiver that uses LC connectors to transmit data over long distances via single-mode fiber, typically in SFP form factors. Overview

An LC interface single-mode module is a compact fiber optic transceiver designed for high-speed, long-distance data transmission using single-mode fiber cables. The LC connector, with a 1.25 mm ferrule, allows for high-density port deployment and reduced signal loss, making it ideal for data centers, telecommunications, and enterprise networks .

Key Features

- Connector Type: LC (Lucent Connector), available in simplex or duplex configurations depending on whether one or two fibers are used .
- Fiber Type: Single-mode fiber, which has a core diameter of approximately 9 microns, allowing light to propagate in a single mode for minimal interference and long-distance transmission .
- Data Rates: Typically supports 1 Gbps to 1.25 Gbps, with some modules capable of higher speeds depending on the manufacturer .

- Distance: Single-mode LC modules can span from a few kilometers up to 80 km or more, depending on the module's specifications and wavelength .
 - Form Factor: Most modules are SFP (Small Form-factor Pluggable), which are hot-pluggable and compatible with standard SFP slots on switches and fiber converters .
- Advantages
- High Port Density: The compact LC design allows more ports per switch or patch panel, saving space in high-density environments .
 - Low Signal Loss: Accurate ferrule alignment and single-mode fiber reduce insertion loss and maintain signal integrity over long distances .
 - Ease of Use: Snap-in LC connectors and hot-pluggable SFP modules simplify installation and maintenance .

- Long-Distance Capability: Single-mode fiber supports long-range connections, suitable for campus networks, business parks, and industrial applications .

Applications

- Enterprise Networks: Connecting switches across large office buildings or campuses.
- Data Centers: High-speed uplinks between racks or server clusters.
- Telecommunications: Long-haul fiber links for ISPs or backbone networks.
- Industrial Networks: Reliable connections in manufacturing or remote facilities .

Summary

An LC interface single-mode module is essential for modern fiber optic networks requiring long-distance, high-speed, and reliable data transmission. Its combination of LC connectors, single-mode fiber, and SFP form factor ensures compatibility, scalability, and efficient network deployment .

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SFP Fiber Optic Connector Types: LC, SC, MPO Explained

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SFP LC Single Mode: How to Choose the Right Module

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SFP Single Mode LC Module (10km)

TRENDnet's SFP Single Mode LC Modules are compatible with standard SFP slots found on network switches and fiber converters.

SFP+ Single Mode LC Module (20km)

Each single mode 10G SFP+ transceiver is equipped with a duplex LC fiber connection interface, and supports high-speed data rates

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This data sheet describes the benefits, specifications, and ordering information for the Cisco SFP Modules for Gigabit

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The 1000Base-LX Industrial SFP Single-Mode LC Module, model TI-MGBS10, is designed to operate within a wide temperature

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Mini-GBIC Single-Mode LC Module

The TEG-MGBS80 Mini-GBIC Single Mode module works with standard Mini-GBIC slots on most switches. This Single Mode LC

SFP Single Mode LC Module (20km)

TRENDnet's single mode fiber SFP, model TEG-MGBS20, features a duplex LC fiber interface, supporting high-speed data rates for

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Optical Transceiver SFP+ 10G Single-Mode Module 1310nm 10km LC

By carefully selecting a single-mode fiber SFP+ module with proper LC connectors, distance planning, and switch

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