

## Single-mode SFP fiber



### Overview

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

### Key Takeaways

A Single Mode Fiber SFP is a hot-swappable optical transceiver that uses laser light (typically 1310 nm or 1550 nm) to transmit data over 9/125  $\mu\text{m}$  single-mode fiber for distances ranging from 10 km to over 80 km, depending on the module type. What a Single Mode Fiber SFP Is

- A compact optical module designed for switches, routers, and media converters.
- Uses laser-based transmission for long-distance, low-loss communication.
- Supports standard SMF (OS1/OS2) with a small core diameter ( $\sim 9 \mu\text{m}$ ).

#### Key Specifications

- Wavelengths: 1310 nm or 1550 nm.
- Distances:
  - Typical: 10 km (1000BASE-LX)
  - Extended: 40–80 km (1000BASE-ZX)
- Some modules reach 120 km depending on optical budget.
- Data Rates: 1 Gbps (SFP), 10 Gbps (SFP+), higher for newer variants.
- Connector: Usually duplex LC.

- Diagnostics: Many support DOM/DDM for monitoring optical power and temperature.

Common StandardsStandardWavelengthDistanceNotes1000BASE-LX1310 nmUp to 10 kmCan run on MMF with MCP. 1000BASE-ZX1550 nm40–80 km+Long-haul applications. Applications

- Campus and building interconnects
- Metro and telecom networks
- Data center uplinks
- Long-distance backbone links

Related Variant: Single-Fiber (BiDi) SFP

If you need to run links over one fiber instead of a pair, BiDi SFPs use WDM to transmit and receive on different wavelengths (e.g., 1310 nm TX / 1550 nm RX).

Single Mode Fiber SFP modules are essential for long-distance, high-bandwidth optical networking.

## Article Content

Single Mode SFP Transceiver: Complete Guide Explained

Learn what a single mode SFP transceiver is, how it works, key specs, common types, and real-world use cases for long-distance

What Is a Single Fiber SFP? A Complete Guide for Beginners

Single fiber SFP is an optical transceiver that transmits and receives data over a single strand of single-mode fiber by using two

Amazon : Sfp Single Mode

H!Fiber 1.25G Single Mode SFP LC Module, 1000Base-LX/LH Fiber Transceiver for Cisco GLC-LH-SMD, Meraki, Ubiquiti UniFi, TP

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

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