

Single-mode single-fiber FC interface



Article Overview

A single-mode single-fiber FC interface uses a single optical fiber for bidirectional Fibre Channel communication, typically employing FC SFP transceivers and high-quality FC connectors to ensure low loss and high reliability.

Overview

A single-mode single-fiber FC interface is designed for high-speed storage networks, such as SANs, where data integrity, low latency, and long-distance transmission are critical. Unlike multimode fiber, single-mode fiber supports longer distances and higher bandwidths due to its smaller core diameter, which reduces modal dispersion. Single-fiber implementations often use BiDi (bidirectional) SFP modules, allowing both transmit and receive signals to travel over a single fiber strand, optimizing fiber usage in data centers or metro networks .

FC SFP Modules

Fibre Channel SFP modules are hot-swappable optical transceivers that convert electrical signals from switches, storage arrays, or HBAs into optical signals for transmission over fiber. Single-mode FC SFPs are available in multiple speed generations, including 8G, 16G, 32G, and 64G, and are optimized for storage traffic with predictable latency and high reliability . Key considerations when selecting an FC SFP module include:

- Connector type: LC is common for single-mode SFPs, while FC connectors are used for patch cables

Article Content

Oct 12, 2025

Single-mode optical fiber

Waves can have the same mode but have different frequencies. This is the case in single-mode fibers,

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Fibre Channel Connectivity

Fibre Channel typically uses multimode fiber (MMF) for intra-data center links and single-mode fiber (SMF) for inter-data center links.

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Fiber Connectors

An overview of common single-fiber connector types is provided, including ST, FC, SC, and the compact LC connectors. Additionally,

Aug 16, 2025

FC Singlemode Fibre Connector | FC Fibre Connectors & Adapters

The FC Connector is used extensively in the telecommunications market, where long singlemode optical fibre cables can run

May 24, 2026

Fiber Optic Adapter, FC-FC Singlemode Simplex (metal)

Fiber Optic Adapter, FC-FC Singlemode Simplex (metal) Normally used to connect two fiber optic cables with standard FC (male)

Dec 20, 2025

The Ideal Connector for Single-Mode Fibers

The FC Connector screw-design and alignment key make them ideal for single-mode fibers. FC Connectors pioneered

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Single Mode Fiber Optic Connectors

Thorlabs stocks an extensive selection of single mode fiber optic connectors, available for immediate shipping. Choose from FC/PC,

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Moocci 4 Pcs Single Mode 9/125 FC Male to LC Female VFL Fiber

The singlemode loopback adapter is widely used in SFP module, optical CATV, FTTX testing, patch panel applications, optical fiber

May 12, 2026

FC Connectors

PRODUCTS We offer a variety of FC fiber optic connectors to accommodate both single-mode fibers and large-core multimode

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Fiber Optic Connectors Guide: LC vs SC vs FC vs ST vs MTP/MPO –

Compare LC, SC, FC, ST, and MTP/MPO fiber connectors. Learn their structures, applications, advantages, and

Jul 05, 2026

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

Explore common SFP fiber optic connector types, including LC, SC, and MPO/MTP. Learn their differences, use cases, and

Feb 19, 2026

FC/APC Fiber Connectors: Single Mode

These FC/APC connectors have an 8° pre-angled ceramic ferrule, which when properly polished, results in

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Single Mode vs. Multimode Fiber: Core Differences and Selection Guide

How do you choose between single mode and multimode fiber? Compare their differences in core size, light source,

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FC/PC Fiber Connectors: Single Mode and Polarization-Maintaining

Threaded FC/PC connectors are designed for high-vibration environments. The "PC" stands for "physical contact" because these

Nov 26, 2025

The Ideal Connector for Single-Mode Fibers

FC Connectors pioneered low loss (below 0.5dB) for single-mode fibers without active alignment by utilizing a floating

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A Complete Guide to Single Mode LC Connectors in Fiber Optic

How Does the Single-Mode LC Fiber Optic Connector Work in Optical Communications? The primary function of a fiber optic

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FC Simplex Fiber Optic Adapter — FiberTek Fiber Shop

General Description The FC fiber optic adapter is a metal-housed coupling device designed for FC connector interfaces in fiber optic

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How Many Fiber Connector Types Do You Know?

Explore common fiber connector types such as LC, SC, FC, ST, MPO/MTP, and VSFF connectors including CS, SN,

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Optical fiber connector

Optical fiber connectors are used to join optical fibers where a connect/disconnect capability is required.

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Singlemode Fiber Optic Connectors – Mouser

Singlemode Fiber Optic Connectors are available at Mouser Electronics. Mouser offers inventory, pricing, & datasheets for

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Single Mode FC/APC Fiber Optic Patch Cables

These single mode fiber optic patch cables are FC/APC terminated on both ends, making them ideal for systems that are sensitive to

Dec 17, 2025

Amazon : Fiber Optic Visual Fault Locator Kit, Red Light Fiber ...

2.Universal Connector Compatibility: Designed with a universal 2.5mm interface compatible with SC, ST and FC fiber connectors.

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Single Mode Fiber Optic Adapters | SC, LC, FC & ST | Amerifiber

Shop single-mode fiber connectors in SC, LC, FC & ST styles. Simplex, duplex & quad configurations for telecom & long-distance

Sep 27, 2025

Fibre Channel

FC-0 – physical layer, defined by Fibre Channel Physical Interfaces standard, includes cabling, connectors etc.; Fibre Channel

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single mode fiber pigtails-FC/APC/UPC fiber optic pigtail

Conclusion FC single mode fiber pigtails offer both reliability and high performance in optical networks. Their robust design,

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FC Connector Explained

The FC Connector pioneered low loss (below 0.5dB) for single-mode fibers without active alignment by utilizing a

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Single Mode Fiber Optic Patchcords

Single Mode Fiber Optic Patchcords are available with FC/PC or FC/APC terminated connectors. Hybrid terminated connectors

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FC connector

The FC connector is a fiber-optic connector with a threaded body, which was designed for use in high

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Single-mode optical fiber

In fiber optics, a quadruply clad fiber is a single-mode optical fiber that has four claddings. Each

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How Many Fiber Connector Types Do You Know?

Single mode fiber allows only one light mode to pass through at a time, while multimode fiber can propagate multiple

Feb 24, 2026

Fiber Optic Connector, FC/UPC, SC, ST, LC, FC/UPC-LC/UPC

Amazon : Fiber Optic Connector, FC/UPC, SC, ST, LC, FC/UPC-LC/UPC, SC/UPC-/APC
Interchangeable Optical Fiber

Oct 27, 2025

How to Specify Single-Mode and Multimode FO Connectors

As fiber optic technology continues to expand and evolve at an increasingly rapid rate, we asked the Fiber Optic

Contact Us

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