SC Interface Single-Mode Optical Module



Overview

SFP Fiber Optic Connector Types: LC, SC, MPO ExplainedExplore common SFP fiber optic connector types, including LC, SC, and MPO/MTP. Learn their difference.

Key Takeaways

Single-mode SC optical modules are fiber transceivers designed for long-distance, low-density networks, offering reliable single-fiber or dual-fiber connectivity with SC connectors.

Overview of SC Single-

Mode ModulesSC (Subscriber Connector) interfaces feature a square push-pull design with a 2. 5 mm ferrule, making them larger than LC connectors and suitable for low-density or legacy network deployments. These modules are commonly used in single-mode fiber (SMF) applications, supporting long-distance transmission ranging from 10 km to 70 km, depending on the module type and optical budget.

S

C connectors are easy to handle, making them ideal for industrial environments or small office clusters where simplicity and durability are prioritized.

Key Features

Connector Type: SC, compatible with standard single-mode fiber patch cables. Transmission Distance: Typical modules support 20 km (1. 25G SC SFP) up to 70 km (1000BASE-ZX SFP) over SMF.

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Wavelength Options: Dual wavelength options are available for bidirectional (BiDi) modules, e.g., TX1310/RX1550 and TX1550/RX1310. Applications: Gigabit Ethernet, Fibre Channel, and FTTx networks. Temperature Range: Commercial (0°C to 70°C) and industrial (-40°C to 85°C) variants.

Monitoring: Some SFP modules support Digital Diagnostic Monitoring (DDM/DOM) for real-time optical power, temperature, and voltage monitoring.

S

C vs LC in Single-Mode ModulesSize and Density: SC connectors are larger and less suitable for high-density deployments, whereas LC connectors are compact (1. 25 mm ferrule) and ideal for data centers. Deployment Scenarios: SC is preferred for industrial, legacy, or long-distance low-density networks, while LC is favored in high-density, high-speed environments.

Ease of Use: SC's push-pull mechanism simplifies installation and maintenance in environments where frequent re-cabling is not required. Cost Considerations: SC modules can be more cost-effective for long-distance single-mode links in industrial or legacy networks, reducing fiber deployment costs. Bidirectional (BiDi) CapabilitiesSome SC single-mode modules use BiDi technology, allowing two-way communication over a single fiber using different wavelengths (e.g., 1310 nm and 1550 nm).

This approach saves fiber resources and simplifies deployment in networks with limited fiber availability. SummarySC single-mode optical modules are robust, easy-to-use transceivers suitable for long-distance, low-density, or industrial networks. They provide reliable single-mode connectivity, support bidirectional transmission in BiDi modules, and are compatible with legacy fiber infrastructure.

While L

C connectors dominate high-density data center environments, SC remains a practical choice for industrial, FTTx, and legacy network applications where simplicity, durability, and long-distance performance are key.

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Article Content

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 compatibility.

10G BiDi SFP+ Optical Module Interface Comparison: SC vs LC

In BiDi optical modules, SC (Subscriber Connector) and LC (Lucent Connector) are common fiber interface types. While they share the same functionality, they differ significantly in their physical

1.25G SFP Module, Single Mode SC, TX1550nm, DDM 10KM

This optical module offers a reliable and durable solution for professional installations. Designed for fiber optic technicians and demanding network environments.

10G BiDi SFP+ Optical Module Comparison: SC

This guide provides a detailed comparison of SC and LC interfaces for 10G BiDi modules to help you optimize your network infrastructure for

10G BiDi SFP+ Optical Module Interface Comparison: SC vs LC

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1.25G BiDi | SC Connector_Bi-Directional (BiDi)_Optical

The series is high performance module for single fiber communications by using 1310 nm transmitter and 1550 nm receiver or 1550 nm transmitter and 1310 nm

1.25G SC SFP Module Optical Module 20Km

This 1.25G SC SFP Module is a high-performance 1.25G SFP fiber module designed for 20km bidirectional data transmission over single-mode fiber (SMF).

10G Multi-Mode Optical Module

SFP+ transceiver that supports 10G connections up to 400 m using multi-mode fiber with a duplex LC UPC connector.

Network Interface Device Fiber: 2026 Guide

Find top network interface device fiber solutions with 10G speeds, POE support, and SNMP management. Explore verified suppliers, real-time diagnostics, and low insertion loss. Click to

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Fiber Optical Transceiver Module Manufacturer,

10G Transceiver BIDI SFP+ designed for bi-directional 10G serial optical data communications. CWDM SFP+ operating at 1270-1610nm CWDM wavelengths

AddOn MSA and TAA 1000Base-BX SFP Transceiver (SMF,

This MSA compliant SFP transceiver provides 1000Base-BX throughput up to 20km over single-mode fiber (SMF) using a wavelength of 1550nmTx/1310nmRx via an SC connector. This bidirectional unit

Small Form-factor Pluggable

Small Form-factor Pluggable Small Form-factor Pluggable connected to a pair of fiber-optic cables Small Form-factor Pluggable (SFP) is a compact, hot-pluggable network interface module format used for

Used Ftth SC UPC 1X2 Fiber Optical Splitter Coupler Cable FBT ...

Material: Plastic Product Model: SC/1-2 Product Function: Optical Signal Coupling, Branching and Distribution Working Wavelength: 1310/1550nm Working Temperature: -40 ~ 85 Centigrade Number

Fiber Optic Test & Installation Equipment | Fiber Testing

The INNO Instrument OLL-1000-652D-SC-APC is a 1000 m single-mode OTDR launch fiber reel designed for dead-zone elimination in fiber optic testing. The

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PON STICK EPON GPON XPON SFP ONU Stick With MAC SC Connector DDM Module ...

SC/UPC receptacle SFP with EPON ONU MAC inside, "Plug-and-play" via auto-discovery and configuration• 1310nm DFB burst mode transmitter, 1490nm TIA continuous mode receiver• Single

OPTICAL MODULES FOR HUAWEI S SERIES SWITCHES

Single-mode optical modules are used with single-mode fibers. Single-mode fibers support a wide band and large transmission capacity, and are used for long-distance transmission.

Used 2m Ftth SC UPC 1x2 PLC Singlemode Fiber Optical Splitter FBT ...

Material: Plastic Product Model: SC/1-2 Product Function: Optical Signal Coupling, Branching and Distribution Working Wavelength: 1310/1550nm Working Temperature: -40 ~ 85 Centigrade Number

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