

SFP Switch Single-Fiber Single-Mode Optical Module



Article Overview

Single-mode, single-fiber SFP modules are compact, hot-swappable optical transceivers designed for long-distance data transmission over a single optical fiber using laser light.

Overview

A single-mode SFP (Small Form-factor Pluggable) transceiver is an optical module that converts electrical signals into optical signals for transmission over single-mode fiber (SMF), and vice versa at the receiving end . Unlike multimode SFPs, which use larger fiber cores for short-distance links, single-mode SFPs use a narrow fiber core ($\sim 9/125\mu\text{m}$) to enable long-distance communication with minimal signal loss . Typical wavelengths for single-mode SFPs are 1310 nm or 1550 nm, supporting link distances from 10 km up to 80 km or more, depending on the module type and optical power budget .

Single-Fiber (BiDi) Capability

Some single-mode SFP modules are single-fiber or bidirectional (BiDi), meaning they can transmit and receive data over a single optical fiber. This is achieved by using different wavelengths for transmit and receive signals, allowing efficient use of fiber infrastructure, which is particularly useful in FTTH (Fiber to the Home), metro networks, and data center interconnects . BiDi SFPs typically require a matching pair at both ends of the link, each configured for complementary wavelengths....

Article Content

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Understanding Single-mode and Multi-mode SFP Optical Modules

Any SFP single-mode optical modules and SFP multi-mode optical modules are incompatible. If you mix SFP single-mode optical

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Single-Mode vs Multimode SFP Wiki and Guide

Single-mode vs multimode fiber is a hot topic in the optical telecom industry. How about single-mode vs multimode

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UBIQUITI U Fiber Single-Mode SFP 1G

Product Description Ubiquiti networks offers a variety of U fiber modules to suit all of your fiber connectivity applications.

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SFP Module Multimode & Singlemode | Serverschrank24

SFP Module Sie haben Glasfaserkabel, wollen jedoch innerhalb Ihres Netzwerks Kupferkabel verwenden. Dann brauchen Sie ein

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Amazon : Single Mode Sfp

Discover high-performance single mode SFP modules for your network. Compatible with major brands like Cisco, Ubiquiti, and more.

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Single Mode SFP vs Multimode SFP: Exploring the Differences

Single-mode SFP (Small Form-factor Pluggable) and multimode SFP are two types of optical transceivers used in fiber optic

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10G Single-Mode Optical Module

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

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Single Mode SFP Transceiver: Complete Guide Explained

A single mode SFP transceiver is a hot-swappable optical module designed to transmit and receive data over single mode fiber

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What is SFP Module and How to Choose it

SFP modules are versatile enough to operate with both copper Ethernet cables and optical fiber cables. On the

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Altronix Products

Small Form-Factor Pluggable (SFP) Single Mode Transceiver Altronix P1SM10 are hot-pluggable SFP fiber transceiver modules and

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SFP modules – transceivers for 1/2/4G fibre channel

BiDi (Bidirectional) SFP – Single-fiber SFP modules for FTTH and fiber-efficient networking, allowing both

Jun 13, 2026

The Ultimate Guide to SFP Modules (2026): Types,

SFP (Small Form-factor Pluggable) is a compact, hot-pluggable network interface module used to connect

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SFP Optical Transceiver | SFP Optical Module | Perle

Perle SFP Optical Transceivers are hot-swappable, compact media connectors that provide instant fiber connectivity for your

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1 Gigabit Singlemode SFP Fiber Optic Transceivers

For more tailored solutions, other fiber optic transceivers on our website can be customized to your

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Single Mode vs Multimode SFP: 2026 Strategic ROI Guide

[Fiber Infrastructure ROI Framework.] Strategic Deployment & ROI Decision Matrix Architect's TL;DR: Our telemetry

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Single-mode vs Multimode SFP: What's the Difference?

Single-mode SFP and multimode SFP are the two main types of hot-pluggable optical transceivers used in fiber optic

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10GE SFP+ Optical Modules

CloudEngine 12800 and 12800E Series Switches Hardware Description This document provides an overall description of the

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SFP Modules: Types, Selection Guide & Applications

Fiber Optic SFP Modules These modules use light signals to transmit data over fiber optic cables, offering high

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Elfcam®

Elfcam® - 2 Pack 1.25 Gbps SFP Transceiver Module 1310nm 10km, Single Mode Duplex LC/UPC Optical Fiber Port OS2,

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[Product Hub] Single Mode SFP Transceiver | Optcore

High-performance single mode SFP transceivers for long-distance networking applications. Find the perfect SFP module for your

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Single Mode SFP vs Multimode SFP: What the Differences Are

A single-mode SFP is specially used with the 9/125µm single-mode fiber (SMF) but can not be used with multimode

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What is the SFP Module? 2024 Best SFP Transceiver Guide

If you're familiar with Ethernet switches, you've likely come across the SFP module. These modules are ubiquitous in modern fiber

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Single-Mode Gigabit Fiber Transceiver SFP/Mini-GBIC

Cisco GLC-LH-SMD Compatible SFP Module - 1000BASE-LH - 1GbE Single Mode Fiber SMF Optic Transceiver - 1GE Gigabit

Aug 06, 2025

Amazon : Sfp Single Mode

OREI 1G SFP Optical Transceiver Module – 1000BASE Single Mode Fiber SFP, 1310nm, Up to 40km, LC Duplex Connector, Gigabit

Oct 16, 2025

SFP modules – transceivers for 1/2/4G fibre channel

1G Ethernet and FC SFP – Gigabit Ethernet (GbE) and 1G FC SFP transceivers for cost-effective optical networking, available in

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2025 How to Identify Single-Mode vs. Multimode SFP Modules for

Learn how to identify single-mode and multimode SFP modules with our comprehensive guide. Explore SFP features,

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1G Bidirectional Single-Mode Optical Module

SFP transceiver that supports 1G connections up to 3 km using single-mode fiber with a simplex LC UPC connector.

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MCSEAAF1LFS00

This product is a single mode fiber optic adaptor. It comes with Single mode 62.5/125 um fiber. Compatible with MCSESM and

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Small Form-factor Pluggable

Small Form-factor Pluggable Small Form-factor Pluggable connected to a pair of fiber-optic cables Small Form-factor Pluggable

Contact Us

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