Selection of 10 Gigabit Single-Mode Optical Modules



Overview

This article provides a detailed exploration of Cisco 10GB Single Mode SFP optical modules, including their classifications, specifications, technical parameters, and key features.

Key Takeaways

Yes, 10 Gigabit single-mode optical modules are available, supporting distances up to 10 km and including both standard duplex and BiDi (single-fiber) options.

Standard Single-

Mode SFP+ Modules10GBASE-LR SFP+ modules are designed for single-mode fiber (SMF) and can support link distances up to 10 km using duplex LC connectors. These modules are compatible with major brands like Cisco, HP, and Brocade, and operate at high speeds up to 10. 31 Gbps while maintaining low power consumption.

They are suitable for both LAN and MAN networks, providing reliable long-distance connectivity over single-mode fiber.

Bi

Di (Bidirectional) Single-Mode Modules10G BiDi SFP+ modules allow full-duplex communication over a single fiber strand using Wavelength Division Multiplexing (WDM). This technology uses two different wavelengths to separate transmit and receive signals, effectively halving fiber usage while maintaining 10G speeds.

Bi

© 2026 FD SOLUCIONES OPTICAL SYSTEMS - All rights reserved

Di modules typically support distances up to 10 km, integrate DFB lasers and PIN photodiodes, and are hot-swappable and standards-compliant with SFP+ MSA, CPRI, and eCPRI protocols. They are ideal for fiber-constrained environments or high-density deployments.

Key Features

Speed: Up to 10–11. 3 GbpsDistance: Up to 10 km on single-mode fiberConnector Type: Duplex LC for standard modules, simplex LC for BiDi modulesPower Consumption: Typically ≤1 WCompatibility: Works with a wide range of switches and NICs from major vendorsDeployment Benefits: BiDi modules reduce fiber usage, simplify cabling, and lower installation costs SummaryWhether you need traditional duplex 10G single-mode modules for standard long-distance links or BiDi modules for single-fiber full-duplex applications, there are multiple options available that support 10G speeds over single-mode fiber up to 10 km. These modules are widely used in enterprise, data center, and telecom networks to optimize fiber infrastructure and maintain high-speed connectivity.

Article Content

Cisco 10GB Single Mode SFP: Specs, Types & Features

This article provides a detailed exploration of Cisco 10GB Single Mode SFP optical modules, including their classifications, specifications, technical parameters, and key features.

Cisco 10GBASE SFP+ Modules Data Sheet

The Cisco® 10GBASE SFP+ modules (Figure 1) give you a wide variety of 10 Gigabit Ethernet connectivity options for data center, enterprise

Singlemode and Multimode Fiber Selection Guide

Therefore, when choosing the optical fiber for 10 Gigabit optical module, you need to choose the appropriate fiber type according to the actual application scenario.

10G SFP+ Optical Transceivers | Transceiver Module

FS 10GbE SFP+ module solutions provide a wide variety of 10 Gigabit Ethernet connectivity options for data centers, enterprise wiring closets, Internet Service Providers (ISPs) applications.

10G Single-Mode Optical Module: The Reliable Choice for High-Speed ...

In this context, 10 Gigabit single-mode optical modules, capable of handling both high speeds and long distances, become a reliable choice. Today, we''ll discuss in simple terms why they are effective and

© 2026 FD SOLUCIONES OPTICAL SYSTEMS - All rights reserved

Comprehensive Guide for Optimal 10G SFP+ Module Selection

Discover the pivotal role of 10G SFP+ modules in high-speed networks. Our detailed guide covers their features, types, and how to choose the right module for your networking needs.

10G Single-Mode/10KM Fiber SFP+ Module

The 2A-142G 10G Single-Mode/10KM Fiber SFP+ Module is designed for use in 10GbE Ethernet environment that allows you to connect a single-mode Gigabit Ethernet network cable to a network

The Ultimate 10G Optical Module Guide: Compare LRM, SR, LR, ER,

This comprehensive guide by Svelol will analyze the differences between 10G SFP+ dual fiber optical modules across multiple dimensions: technical parameters, transmission distance, fiber type, and

SFP+ Single Mode LC Module (10km)

Each single mode 10G SFP+ transceiver is equipped with a duplex LC fiber connection interface, and supports high-speed data rates up to 10.31Gbps. All

Active Optical Module Market Research Report 2034

Active Optical Module market valued at $10.7 billion in 2025, projected to reach $35.6 billion by 2034 at 14.2% CAGR, driven by data center expansion and 5G deployment.

10 Gigabit Ethernet

10 Gigabit Ethernet (10GE, 10GbE, or 10 GigE) is a group of computer networking technologies for transmitting Ethernet frames at a rate of 10 gigabits per second.

SFP28□A 25 Gbps small form-factor hot-pluggable optical module ...

The SFP28 optical module is a further advancement based on the SFP form factor, with a data rate of 25 Gbps, and shares the same physical dimensions as SFP+. SFP28 complies with the SFP28 Multi

huijue-4-port-10-gigabit-optical-switch Manufacturer/Producer

All suppliers for huijue-4-port-10-gigabit-optical-switch Manufacturer/Producer Find wholesalers and contact them directly B2B martketplace Find companies now!

SFP Optical Transceiver | SFP Optical Module | Perle

Perle SFP Optical Transceivers are designed for use with Perle SFP Media Converters, Industrial Ethernet Switches, IOLAN SCG Console Servers and third party equipment that supports SFP

© 2026 FD SOLUCIONES OPTICAL SYSTEMS - All rights reserved

Referenzdokument zur optischen Zugangsarchitektur: Leitfaden zur ...

OPTICAL ACCESS ARCHITECTURE REFERENCE DOCUMENT: SINGLE-MODE VS MULTI-MODE FIBER SELECTION GUIDE1. TECHNOLOGY OVERVIEWThis document serves as the definitive

huijue-4-port-10-gigabit-optical-switch

All Companies and suppliers for huijue-4-port-10-gigabit-optical-switch Find wholesalers and contact them directly Leading B2B martketplace Find companies now!

H3CSFP-XG-LX-SM1310-S 10G SFP+ Multi-mode Optical Module

With outstanding advantages of high density, low power consumption and reduced system construction cost, SFP+ modules are widely used in the 10 Gigabit Ethernet optical fiber data communication

palau-10-gigabit-industrial-optical-module-manufacturer

23 Companies and suppliers for palau-10-gigabit-industrial-optical-module-manufacturer Find wholesalers and contact them directly Leading B2B martketplace Find companies now!

Related Video Reference

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

Contact Us

Continue your research online:

Website: https://fdsoluciones.es
Technical inquiry: https://fdsoluciones.es/project-enquiry.html

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

© 2026 FD SOLUCIONES OPTICAL SYSTEMS - All rights reserved