

Single-mode 10G optical module



AI Overview

A 10G single-mode optical module is an SFP+ transceiver that delivers 10 Gigabit Ethernet over single-mode fiber up to 10 km using a 1310 nm wavelength and LC duplex connectors.

Overview A 10G single-mode optical module (SFP+) is a compact, hot-pluggable transceiver designed to convert electrical signals from switches or routers into optical signals suitable for single-mode fiber (SMF) transmission. These modules are widely used in data centers, enterprise networks, and telecom environments to provide reliable long-distance links with minimal signal loss and low latency.

Key Specifications

- Data Rate:** 10 Gigabit per second (10G) for high-speed network connectivity.
- Wavelength:** 1310 nm, optimized for long-distance single-mode fiber transmission.
- Maximum Distance:** Up to 10 kilometers over single-mode fiber.
- Connector Type:** LC duplex, compatible with standard single-mode patch cords.
- Standards Compliance:** Conforms to 10GBASE-LR (Long Reach) under IEEE 802.3ae, ensuring interoperability across vendors.
- Form Factor:** SFP+ small form-factor, allowing high port density and hot-pluggable operation.
- Optional Features:** Digital Optical Monitoring (DOM/DDM) for real-time measurement of optical power, temperature, and voltage.

Advantages

- Long-Distance Connectivity:** Supports up to 10 km, ideal for connecting switches across buildings or campus networks.
- Low Latency and High Stability:** Efficient signal processing ensures minimal delay and reliable connections for high-performance applications like cloud computing, video streaming, and real-time data processing.
- Energy Efficient:** Designed for low power consumption while maintaining high-speed performance.
- Interoperability:** Multi-source agreement (MSA) compliance allows use with a wide range of switches, routers, and network interface cards.

Deployment Considerations

- Ensure the fiber type is single-mode (SMF) with a core diameter of approximately 9 μm to minimize modal dispersion.
- Verify optical budget and link loss to maintain signal integrity over the intended distance.

Article Content

SFP+ Optical Transceiver Modules (10G-SR/LR)

SFP+ Optical Transceiver Modules (10G-SR/LR) Amphenol SFP Optical Modules • SFP+ Optical Modules from Cables on Demand are Now Available in both Short

How to Choose the Right Fiber Optic Cable for Your Optical

How to Choose the Right Fiber Optic Cable for Your Optical Transceiver Selecting the right optical transceiver is only half of building a reliable fiber network. Many network failures that appear

Huawei SFP-10G-iLR Optical Transceiver Best price in Duba

Basic Information Module name SFP-10G-iLR Part Number 02311BJJ Model SFP-10G-iLR Form factor SFP+ Application standard 10GBASE-iLR (non-standard) Connector type LC Optical fiber type SMF

optical transceiver sfp+ 10g single mode module 1310nm 10km lc

The 1310nm LC Interface 10G Singlemode Dual-fiber Optical Module is the workhorse of the modern network. It combines speed, distance, and reliability into a compact package.

Ubiquiti 10G Multi-Mode Optical Module • SFP+ • 10/1GbE • Single

Product information "Ubiquiti 10G Multi-Mode Optical Module • SFP+ • 10/1GbE • Single Pack • UACC-OM-MM-10G-D" SFP+-Transceiver, der 10G-Verbindungen bis zu 400 m über Multimode-Faser mit

10G Bidirectional Single-Mode Optical Module

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

Cisco 10GBASE SFP+ Modules Data Sheet

The Cisco SFP-10G-LR10-I supports a link length of 10 kilometers on standard Single-Mode Fiber (SMF, G.652). The SFP-10G-LR10-I is for industrial

XG-SFP-LR-SM1310 10GBASE-LR SFP+ 1310-nm 10-km DOM

The XG-SFP-LR-SM1310 is aligned to IEEE 10GBASE-LR optical specifications and supports a link length of up to 10 kilometers over a single-mode fiber (SMF) with an LC connector.

Switch Pro Max 16 PoE

A 16-port, Layer 3 Etherlighting™ switch with 2.5 GbE, PoE++ output, and versatile mounting options.

Optical Transceiver Market Size, Growth Drivers

Optical Transceiver Market Size & Share Analysis - Growth Trends and Forecast (2026 - 2031) The Optical Transceiver Market Report is

MikroTik 10G Single-Mode SFP+ Module Pair, 10 km | Getic

Detailed description BiDi Fiber Modules The MikroTik S+2733LC10D is a pair of industrial-grade 10G SFP+ modules designed for single-mode fiber links over distances of up to 10 km. The modules are

SFP Optical Transceiver Modules for Long Distance: A Complete

Discover everything you need to know about SFP optical transceiver modules for long-distance fiber transmission. Compare LX, EX, ZX models and choose the right module for your

Wholesale Optical Transceivers Module | 100G

Shop high-speed optical transceivers from Unitekfiber. We offer 100% compatible 40G, 100G, and 400G QSFP-DD modules for data centers. Expert technical

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

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

Hilink Optics QSFP QSPDD OSFP 10G SFP

If you have any questions about Hilink Optics CWDM DWDM QSFP QSPDD OSFP 10G SFP transceivers, we will give the professional solutions to you.

Ubiquiti 10G CWDM Single-Mode Optical Module • SFP+ • 10/1GbE •

SFP+-Transceiver für CWDM, der 10G-Verbindungen bis zu 20 km über Singlemode-Glasfaser mit einem Duplex-LC-UPC-Anschluss unterstützt. Maximale Datenrate: 10 Gbit/s Kompatibel mit SFP+-

Used Ubiquiti 1G Bidirectional Single-Mode Optical Module

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10G SFP+ Fiber – SFP+ Single Mode LC Module

TRENDnet's SFP+ Single Mode LC Modules are compatible with standard SFP+ slots found on network switches and fiber converters. Each single mode 10G

10GE SFP+ Optical Modules

Single-fiber bidirectional (BIDI) optical modules must be used in pairs. For example, SFP-10G-BXU1 must be used with SFP-10G-BXD1.

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

10G BiDi SFP+ TX1550nm/RX1490nm 70KM LC Optical Transceiver

Get 10G BiDi SFP+ TX1550nm/RX1490nm 70KM LC Optical Transceiver from ETU-Link Technology CO.,LTD,we supply excellent SFP+ 10G BiDi 70KM SFP Module. Long using life,high

Optical Transceiver SFP+ 10G Single-Mode Module 1310nm 10km LC

An SFP+ 10G single-mode module is a hot-pluggable optical transceiver that converts electrical signals from a switch or router into optical signals suitable for single-mode fiber transmission.

Single Mode 10G SFP+ Module: Price, Types & Buying Guide

Explore single mode 10G SFP+ modules, including LR, ER, and ZR types. Compare prices, distances, and compatibility to choose the right module.

Used Ubiquiti 10G Bidirectional Single-Mode Optical Module

UBB Store Ubiquiti 10G Bidirectional Single-Mode Optical Module - NEW SEALED For Sale When you click on links to various merchants on this site and make a purchase, this can result in this site

Switch Pro Max 24 PoE

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Used Ubiquiti 10G CWDM Single-Mode Optical Module UACC-OM

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