

10 Gigabit Single-Mode Optical Module Interface Type



AI Overview

10G Single-Mode Optical Modules are SFP+ transceivers designed for long-distance 10 Gigabit Ethernet connections over single-mode fiber, supporting distances from 10 km up to 40 km depending on type and wavelength. Overview 10G single-mode optical modules are essential for high-speed, long-distance fiber optic networks. They convert electrical signals from switches or routers into optical signals for transmission over single-mode fiber and vice versa at the receiving end. These modules are widely used in data centers, enterprise backbones, and metro networks where high bandwidth and low latency are critical. Common Types and Specifications

- Standard 10GBASE-LR SFP+:** Supports up to 10 km over single-mode fiber at 1310 nm wavelength. Uses duplex LC UPC connectors and is suitable for long-distance enterprise and telecom links.
- 10GBASE-ER SFP+:** Designed for extended reach, supporting distances up to 40 km over single-mode fiber at 1550 nm wavelength. Often used in metro or inter-city networks.
- Bidirectional (BIDI) SFP+ Modules:** Use a single fiber for both transmit and receive by employing different wavelengths (e.g., 1270 nm and 1330 nm). Must be used in pairs, with one module transmitting at one wavelength and the other receiving at the complementary wavelength.
- Industrial or Extended Temperature Modules:** Some modules, like Cisco SFP-10G-SR-I, support industrial temperature ranges and are suitable for harsh environments.

Key Features

- Hot-swappable:** Can be installed or replaced without powering down the network device.
- Digital Diagnostics Monitoring (DDM):** Provides real-time metrics such as temperature, voltage, and optical power for network monitoring.
- Low Power Consumption:** Optimized for dense network environments to reduce energy usage.
- Compatibility:** Interoperable with other 10GBASE interfaces like XENPAK, X2, and X...

Article Content

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Founded in 1976, Perle designs and manufactures highly reliable device networking, media conversion, and Internet of Things (IoT) connectivity hardware. Perle products establish network connectivity

SFP+ Single Mode LC Module (10km)

Duplex LC optical interface Supports data rates of up to 10.31Gbps Supports 1310nm single mode network transmissions Low Electromagnetic Interference (EMI) design Compliant with IEEE 802.3ae

Fibre Channel

SFP modules support a variety of distances via multi-mode and single-mode optical fiber as shown in the table below. SFP modules use duplex fiber cabling with LC connectors. SFP-DD modules are

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

SFP-10G-LR Compatible | 10GBASE-LR SFP+ Optical

Designed for 10 Gigabit networks, this module transmits data up to 10km using 1310nm wavelength over Single Mode Fiber. Ideal for campus backbones and

Solid-state drive

SSDs come in various form factors and interface types, including SATA, PCIe, and NVMe, each offering different levels of performance. Hybrid storage solutions,

Optic Modules Datasheet

These platforms support multiple interface types and technologies such as Ethernet, ATM, and SONET. Depending on the deployment scenario, they support different pluggable optic modules that can be

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Overall, SFP modules with singlemode, multimode and single & multimode offer high flexibility for industrial networks. The right selection of these modules enables companies to optimally adapt their

Gigabit Ethernet

Optical fiber transceivers are most often implemented as user-swappable modules in SFP form or GBIC on older devices. IEEE 802.3ab, which defines the widely

Network Connections Guide | SCinet CRS

This type of optics allows for a 100 Gigabit connection on a singlemode fiber cable with a link length up to 10 kilometers. Data is transmitted using four wavelengths and the optical interface can multiplex

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

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 wiring closet, and service provider transport applications.

4X SFP Optical Module Gigabit Single-Mode Optical Module SFP-GE

4X SFP Optical Module Gigabit Single-Mode Optical Module SFP-GE-LX-SM1310 20KM Dual Fiber 1.25G for H3C Beskrivelse Product Name: SFP Gigabit Optical Module Product model: SFP-GE-LX

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Berns gigabit sfp transceiver ↗ Lc photoelectric conversion ...

Have you ever experienced: the network cable in the computer room suddenly breaks in the middle of pulling, and the fiber optic interface does not match and you stare blankly; temporary

TP-Link Gigabit SFP Module, Single-mode, MiniGBIC, LC Interface,

Home Active Equipment Transceivers, Modules & Accessories TP-Link Transceivers & Modules TP-Link Gigabit SFP Module, Single-mode, MiniGBIC, LC Interface, Up to 10km Distance Excellent 4.83 / 5

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

All modern 10G SFP+ modules use LC duplex connectors, which provide: The LC interface has become the industry standard for both single-mode and multimode SFP+ modules.

HMS Networks

HMS creates products that enable industrial equipment to communicate and share information with software and systems. In short: Hardware Meets Software™.

SFP Single Mode LC Module (10km)

TRENDnet's SFP Single Mode LC Modules are compatible with standard SFP slots found on network switches and fiber converters. Each single mode SFP transceiver is equipped with a duplex LC fiber

Contact Us

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