

Gigabit Ethernet Fiber Optic Transceiver Single-Mode Single-Fiber



AI Overview

Gigabit Ethernet over single-mode fiber is supported by SFP transceivers such as 1000BASE-LX/LH, 1000BASE-EX, and 1000BASE-ZX, enabling link distances from 10 km up to 70 km depending on the module and fiber quality.

Overview of Single-Mode Gigabit SFP Modules

Gigabit Ethernet SFP modules are hot-pluggable transceivers that convert electrical signals from a switch or router into optical signals suitable for fiber transmission. Single-mode fiber (SMF) SFPs are designed for long-distance links, typically using LC connectors and operating at wavelengths around 1310 nm or 1550 nm.

Common Single-Mode SFP Types

- 1000BASE-LX/LH:** Operates on standard single-mode fiber for distances up to 10 km and can also work on multimode fiber with a mode conditioning patch cable.
- 1000BASE-EX:** Designed for longer single-mode fiber spans up to 40 km, often requiring inline optical attenuators for back-to-back connections.
- 1000BASE-ZX:** Supports ultra-long single-mode fiber links up to approximately 70 km, with link span depending on fiber quality, splices, and connectors.

Industrial SFPs: Modules like the GS FIBER-SFP-10K provide reliable 1Gbps transmission over single-mode fiber for up to 10 km at 1310 nm wavelength.

Key Features

- Hot-swappable:** Can be inserted or removed without powering down the network device.
- Flexible deployment:** Allows mixing of multimode and single-mode SFPs on the same switch or router port-by-port.
- Digital Optical Monitoring (DOM):** Some modules support real-time monitoring of optical power, temperature, and voltage.
- Connector type:** Most single-mode SFPs use LC duplex connectors, though BiDi SFPs allow single-fiber bidirectional communication.

Practical Considerations

- Link distance:** Choose the SFP type based on the required distance; for example, LX/LH for 10 km, EX for 40 km, ZX for 70 km.
- Fiber quality:** Splices, bends, and connector loss...

Article Content

SFP Optical Transceiver | SFP Optical Module | Perle

Multimode and single-mode fiber Gigabit Ethernet, Fast Ethernet, Fiber channel, ATM/SONET, SDH Hot-pluggable with durable metal enclosure Can be installed

Cisco SFP Modules for Gigabit Ethernet Applications

The 1000BASE-ZX SFP operates on standard single-mode fiber-optic link spans of up to approximately 70 km in length. The SFP provides an optical link budget of 21 dB, but the precise link span length

Alcatel-Lucent (Nokia) 3HE00564CA 01 10GBASE-LR XFP Optical Transceiver

Key Features Genuine Alcatel-Lucent (Nokia) Original: 100% factory-new, rigorously tested for optical performance and full compatibility with Nokia network equipment 10GBASE-LR Standard: Complies

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1 Gigabit Singlemode SFP Fiber Optic Transceivers

Our 1 Gigabit Singlemode SFP Transceivers offer high-performance, reliable connectivity for singlemode fiber optic networks. These transceivers are

SFP Transceiver

Utilizing LC connectors and operating at a 1310nm wavelength, it enables high-speed data transmission over single-mode fiber for distances up to 10 kilometers. This module provides a reliable long-reach

HTF DWDM equipment, OTN Solution, QSFP28 OSFP

HTFuture offers industry-leading fiber optic products and WDM system solutions with global recognition for excellence and innovation.

Fiber Optic Networking Products in Uganda

Fiber SFP 1.25g Transceiver Single Mode The 1.25G SFP LX Optical Transceiver is a hot-pluggable module designed for Gigabit Ethernet...

1000BASE-SX, 1000BASE-LX, 1000BASE-ZX& BX SFP:

1000BASE-LX SFP is a gigabit Ethernet standard over fiber optics for long reach. It operates on single-mode fiber (SMF) or multimode fiber (MMF)

Cisco 10GBASE SFP+ Modules Data Sheet

It supports link lengths of up to 70 kilometers on standard Single-Mode Fiber (SMF, G.652), assuming a fiber chromatic dispersion of 20 ps/ (nm * km).

Industrial Gigabit Fiber SFP Optical Transceiver

Compatibility in your network is everything, and this industrial SFP Transceiver Module delivers. Use it with any Intellinet SFP equipped network switch or any

Gigabit SFP Transceiver 1.25G SMF 20km LC Single Fiber BiDi SFP Optical ...

High-performance 1.25G BiDi SFP transceiver, single-mode single-fiber design with LC connector. Supports 1.25Gbps data rate, 20km transmission (1310nm TX/1550nm RX). Features hot-pluggable,

SFP Module Buying Guide: How to Choose the Right

sfp sfp+ transceiver module fiber optic This guide covers everything you need to know to buy the right SFP module.

Cisco 40GBASE QSFP Modules Data Sheet

The Cisco® 40GBASE QSFP (Quad Small Form-Factor Pluggable) portfolio offers customers a wide variety of high-density and low-power 40

Gigabit Ethernet

Gigabit Ethernet was the next iteration, increasing the speed to 1000 Mbit/s. The initial standard for Gigabit Ethernet was produced by the IEEE in June 1998 as

SFP Transceivers | 1G, CWDM, DWDM, BiDi | EDGE

EdgeOptic's SFP (Small Form-Factor Pluggable) transceiver portfolio delivers reliable connectivity solutions for Gigabit Ethernet, Fast Ethernet, and

1G SFP Transceivers | Mini-GBIC SFP Modules

FS gigabit ethernet transceiver solutions provide fibre or copper options including 1000BASE-SX, 1000BASE-LX/LH, 1000BASE-T etc., from 100m to 160km, for

100GBASE QSFP-100G Modules Data Sheet

The 100 Gigabit Ethernet signal is carried over a single wavelength using onboard PAM4 modulation and FEC. QSFP-100G-SR-S can interoperate

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

Product Description□10G BiDi SFP+ 1490nm/1550nm 70KM LC Optical Transceiver This high-performance bidirectional SFP+ transceiver delivers 10Gbps connectivity over 70km single-mode

Media Converter 10/100/1000Mbps, Single-mode (20KM), Single Fiber

This Gigabit Ethernet Fiber Switch has 2 10/100/1000M UTP ports and 1 fiber SC port Single-fiber. The product is possessed of stable performance, excellent quality, and reasonable price because of

1G SFP LX 1310nm 20km Single mode Transceiver

Featuring a built-in Semtec chip and reliable FP laser / PIN receiver, the SFP module delivers low power consumption and stable optical links for 1G single

StarTech Cisco GLC-LH-SMD Compatible SFP Module

StarTech Cisco GLC-LH-SMD Compatible SFP Module - 1000BASE-LX/LH - 1GbE Single Mode Fiber SMF Optic Transceiver - 1GE Gigabit Ethernet SFP - LC 10km - 1310nm - DDM Cisco

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