

Article Overview

A Gigabit Single-Mode Optical Module with LC interface is an SFP transceiver that supports 1 Gbps data rates over single-mode fiber, typically using a 1310nm wavelength and LC duplex connectors for distances up to 20 km or more.

Overview

Gigabit Single-Mode SFP modules are hot-swappable transceivers designed to connect network switches, routers, or media converters to single-mode fiber networks. They use LC-type duplex connectors, which are compact and widely adopted for high-density fiber installations . These modules are compatible with MSA-compliant SFP slots, allowing interoperability across different vendors, including Cisco and Intellinet devices .

Key Specifications

- o Data Rate: 1 Gbps (Gigabit Ethernet)
- o Fiber Type: Single-mode fiber (SMF)
- o Wavelength: Typically 1310 nm for standard 1000BASE-LX/LH modules
- o Connector Type: LC duplex
- o Maximum Distance: Up to 20 km for industrial modules; standard modules can reach 10 km or more depending on fiber quality
- o Hot-Pluggable: Yes, allowing installation or replacement without powering down the network device
- o Industrial Grade: Some modules, like TRENDnet TI-MGBS20, support extreme temperatures (-40? to 85?C) for industrial environments

Applications

- o Enterprise Networks: Connecting switches and routers across buildings or campuses
- o Data Centers: High-density fiber connections with LC interfaces
- o Industrial Networks: Ruggedized modules for manufacturing or outdoor environments
- o Long-Distance Links: Campus or metropolitan area networks requiring single-mode fiber spans up to 20 km

Advantages

- o Flexibility: Can mix and match with copper or multimode SFPs on a port-by-port basis
- o Reliability: Metal housing reduces electromagnetic interference and enhances durability
- o Ease of Use: Supports plug-and-play installation with automatic recognition by compatible devices
- o Digital Optical Monitoring (DOM): Some modules provide real-time monitoring of optical power and



Lc gigabit single-mode optical module

temperature

Example Modules

- o TRENDnet TI-MGBS20: Industrial 1000Base-LX SFP, single-mode, LC duplex, 20 km reach, -40°C to 85°C operating range
- o H!Fiber 1000BASE-LX/LH SFP: Standard single-mode LC module for data centers and enterprise networks
- o Intellinet SFP Transceiver: MSA-compliant, compatible with Cisco GLC-LH-SM-20, hot-swappable, 1 Gbps These modules are ideal for high-speed, long-distance fiber connections where reliability, compact form factor, and vendor interoperability are critical.

Cisco Transceiver Modules - Learn product details such as features and benefits, as well as hardware and

10 Gigabit Fiber SFP + (LC) Single-Mode Optical Transceiver Module The new line of

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

Generic SFP-1G-LX Compatible 1000BASE-LX/LH SFP 1310nm 10km-20km Transceiver supports 1G

Each Single Mode SFP module is equipped with a duplex LC fiber connection interface, and supports

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

This data sheet describes the benefits, specifications, and ordering information for the

Industrial Gigabit Fiber SFP Optical Transceiver Module, 1000Base-EX (LC) Single-Mode Port, 40 km (25 mi.), Wavelength 1550 nm,

1000Base-LX/LH Module: Gigabit Ethernet SFP Transceiver, 1.25 Gb/s Singlemode Dual LC interface, 1310nm wavelength, link OS2

Gigabit Optical Module > Single mode double fiber > LC port > 1310nm sending, and 1310nm receiving >

Gigabit single-mode single-core optical fiber modules usually have the following specifications: multi-mode 550m, single



Lc gigabit single-mode optical module

Compatibility in your network is everything, and this industrial SFP Transceiver Module delivers. Use it with

The 1000BASE-LX/LH SFP, compatible with the IEEE 802.3z 1000BASE-LX standard, operates on standard single-mode fiber-optic

JTOPTICS's 1Gb/s transceiver module supports up to 20km link lengths over LC duplex SMF fiber.

Featuring a built-in Semtec chip and reliable FP laser / PIN receiver, the SFP module delivers low power

Learn everything you need to know about SFP LC connectors, modules, and transceivers

Web: <https://in-au.co.za>

