

Gigabit Optical Module



AI Overview

A gigabit optical module is a transceiver that converts electrical signals into optical signals (and vice versa) to enable high-speed data transmission over fiber optic or copper networks. A gigabit optical module serves as a hot-swappable interface between network devices (like switches or routers) and fiber optic or copper cabling. Its primary role is to convert electrical signals from the device into optical signals for transmission over fiber, and then back into electrical signals at the receiving end, allowing data to travel over long distances with minimal loss and high reliability.

Types of Gigabit Optical Modules

- GBIC (Gigabit Interface Converter):** The original pluggable module standard for 1 Gbps networks, compatible with SC-type fiber connectors. It is hot-swappable but relatively large, limiting port density.
- SFP (Small Form-factor Pluggable):** Also called “mini-GBIC,” it supports 1 Gbps speeds in a compact form, allowing higher port density and lower power consumption. SFP modules can operate over multimode or single-mode fiber and even copper cabling (1000BASE-T) depending on the model.
- GPON SFP Modules:** Used in Gigabit Passive Optical Networks, these modules support high-speed broadband access with downstream rates up to 2.5 Gbps and upstream rates of 1.25 Gbps. They are commonly deployed in Optical Line Terminals (OLTs) and Optical Network Units (ONUs) for residential and business internet services.

Applications

- Enterprise Networks:** Connect switches, routers, and servers over fiber for high-speed, reliable communication. Modules allow flexible media choices and easy upgrades without replacing entire devices.
- Broadband Access (GPON):** Deliver gigabit internet, IPTV, VoIP, and cloud services to multiple users over a single fiber strand using passive splitters, reducing maintenance costs and improving reliability.
- Long-Distance Communication:** Single-mode fiber SFPs can transmit data over tens of kilometers, making them suitable for campus networks, data centers, and metropolitan area ne...

Article Content

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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

Optical Module|Gigabit Optical Module|SFP Optical

The other products of ModuleTek can help operator data centers, and network service providers to enhance and improve the performance of their network

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 Merke Melitt Ny På lager

SFP Optical Transceiver | SFP Optical Module | Perle

Perle SFP Optical Transceivers are hot-swappable, compact media connectors

K6097: Specifications of the Fiber Gigabit Ethernet SFP, XFP, SFP+ ...

Topic The following specifications are for the available Fiber Gigabit Ethernet modules and the platforms that support those modules. Important: The end user must ensure suitability of

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

h3c gigabit sfp optical modules online manufacture

Good quality h3c gigabit sfp optical modules from h3c gigabit sfp optical modules manufacturer, Buy h3c gigabit sfp optical modules online from China.

Cisco 10GBASE SFP+ Modules Data Sheet

Page 3 of 22 A broad range of industry-compliant SFP+ modules for 10 Gigabit Ethernet deployments in diverse networking environments. Product overview The Cisco® 10GBASE SFP+ modules (Figure 1)

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

SFP+ optical module is a new generation of 10 Gigabit optical modules. Compliant with the ANSI T11 protocol, it supports 10 Gigabit Ethernet (10GbE) applications. The SFP+ module is approximately

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 XFP transceiver

XFP modules use an LC fiber connector type to achieve higher density. Principal applications include 10 Gigabit Ethernet, 10 Gbit/s Fibre Channel, synchronous

A Comprehensive Look at the QSFP28-100G-ZR4 Optical Module

The QSFP28-100G-ZR4 optical transceiver is a high-performance module that delivers reliable data transfer across extended distances, with exceptional signal quality and reliability.

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

This 1.25G BiDi SFP optical module is a hot-pluggable transceiver designed for single-mode single-fiber communication. It adopts a single LC port to transmit and receive signals simultaneously, using

Installation and Maintenance Guide for Gigabit Optical Modules and 10 ...

Optical modules are indispensable network communication devices. Ensuring their normal operation and stability involves more than just the mentioned methods. Installation and

h3c sfp optical module with warranty online manufacture

H3C Gigabit Optical Modules Product Overview Adopting advanced technologies, H3C Gigabit Optical Modules feature low power consumption, hot-swap capability and wide compatibility.

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

Cisco SFP Modules for Gigabit Ethernet Applications

This data sheet describes the benefits, specifications, and ordering information for the Cisco SFP Modules for Gigabit Ethernet Applications.

Cisco Transceiver Modules

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

Gigabit Fiber SFP Optical Transceiver Module

The new Intellinet Network Solutions Small Form Factor Pluggable (SFP)

Small Form-factor Pluggable

SFP+ supports 8 Gbit/s Fibre Channel, 10 Gigabit Ethernet and Optical Transport Network standard OTU2. It is a popular industry format supported by many

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.sky-connect.co.za>

Email: info@sky-connect.co.za

Phone: +44 20 7946 0958

Address: 1 Cornhill, London EC3V 3ND, United Kingdom

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