Gigabit Optical Module Port

Overview

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

Key Takeaways

A Gigabit Optical Module Port is a network interface slot that accepts SFP transceivers to enable 1Gbps Ethernet connectivity over fiber or copper media.

Overview

A Gigabit Optical Module Port is designed to host Small Form-factor Pluggable (SFP) transceivers, which are hot-pluggable devices that convert electrical signals from a network device into optical or electrical signals suitable for the chosen transmission medium. These ports are commonly found on switches, routers, and network interface cards, allowing flexible deployment of fiber or copper connections without replacing the hardware.

Functionality

The port works by interfacing electrically with the host device while the SFP module handles the signal conversion. This enables full-duplex 1Gbps communication over various media types, including: Multimode fiber (MMF) for short-distance links up to 550 metersSingle-mode fiber (SMF) for long-distance links ranging from several kilometers to over 100 kmCopper Ethernet (1000BASE-T) for standard Cat5/6 cabling up to 100 meters SFP modules support standards such as 1000BASE-SX, 1000BASE-LX/LH, 1000BASE-ZX, and 1000BASE-BX, providing compatibility with different network infrastructures. AdvantagesHot-swappable: Modules can be replaced without powering down the device, minimizing downtime.

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Media flexibility: Different SFP types can be used on a port-by-port basis, allowing “pay as you populate” deployment. High port density: SFP modules are smaller than older GBIC modules, enabling more ports per device. Monitoring capabilities: Many optical SFPs support Digital Optical Monitoring (DOM) to track parameters like optical power, temperature, and voltage.

Installation

To use a Gigabit Optical Module Port: Select an SFP module compatible with your network requirements (wavelength, fiber type, and distance).

Insert the SF

P module into the port along the guide rails until it clicks into place. Connect the optical fiber or copper cable to the module using the appropriate connectors (LC for fiber, RJ45 for copper). Verify link status and monitor performance if DOM is supported.

Applications

Gigabit Optical Module Ports are widely used in: Enterprise and campus networks for access-layer switchingIndustrial networks requiring reliable fiber linksLegacy infrastructure upgrades where 1Gbps connectivity is sufficient and cost-effective These ports remain relevant despite the adoption of higher-speed technologies due to their stability, interoperability, and cost efficiency.

Article Content

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.

Gigabit Fiber SFP Optical Transceiver Module

GLC-GE-100FX is a Cisco SFP module that lets a Gigabit Ethernet port on a Cisco switch or router carry a 100BASE-FX optical link. A standard

Cisco OSFP 800G Transceiver Modules Data Sheet

The Cisco ® OSFP 800G transceiver modules provide 800 Gigabit Ethernet (GE), 2x 400GE, 4x 200GE, and 8x 100GE connectivity options,

Common Interface Standards and Rates of Optical Port Switches

Below are common interface standards and types, arranged in ascending order of data rate: 1. Gigabit Ethernet (1G / 1000M) This is the most common basic optical port type. Interface/Slot

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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

KD — High-Speed Optical Connectivity Semiconductors

KD designs semiconductor ICs for multi-gigabit optical networking over fiber optics. Solutions for automotive, industrial, and consumer connectivity.

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

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

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

As an essential component of network communication, optical modules have been widely used in various scenarios such as data centers, enterprise LANs, and WANs. An optical module is

6X 10G SFP+ Module 10GbE Copper SFP Modules Optical Port Turn

Descriere 6X 10G SFP+ Module 10GbE Copper SFP Modules Optical Port Turn to RJ45 Ethernet Port Gigabit 1000M Transceiver Module 10G Transmission Distance: 30 Meters Attention: 10G SFP+

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4 Port 10/100/1000 RJ45 to Fiber Switch

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Optical Modules Market Research Report 2034

Optical Modules Market Outlook 2025-2034 The global optical modules market was valued at $14.8 billion in 2025 and is projected to reach $39.6 billion by 2034, advancing at a compound annual

Cisco 40GBASE QSFP Modules Data Sheet

Cisco QSFP-40G-CSR4 Cisco 40GBASE-CSR4 QSFP Modules extend the reach of the IEEE 40GBASE-SR4 interface to 300 and 400 meters on laser-optimized OM3, and OM4/OM5

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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