10 Gigabit optical modules used in gigabit switches

Overview

The Cisco 10GBASE DWDM SFP+ Modules (Figure 1) are fiber transceivers for a wide variety of Cisco switches, routers, and other equipment.

Key Takeaways

10G SFP+ optical modules enable high-speed 10 Gigabit Ethernet connections between switches, servers, and routers, supporting both fiber and copper interfaces. Overview of 10G SFP+ Modules10G SFP+ (Small Form-factor Pluggable Plus) modules are enhanced transceivers designed for 10 Gigabit per second (10Gbps) data rates, commonly used in data centers, enterprise networks, and telecom environments. They are physically similar to 1G SFP modules but optimized for higher speeds, lower power consumption, and greater density per switch chassis.

© 2026 ENSAA OPTICAL NETWORKS - All rights reserved

Key Features: Form Factor: SFP+ (backward-compatible with SFP slots in some cases, but 10G modules do not operate in standard 1G SFP ports)Connector Types: LC duplex for fiber optic cables or Direct Attach Copper (DAC) for short-range connectionsPower Consumption: Typically ≤1W, more efficient than older XFP modulesHot-Swappable: Can be installed or replaced without powering down the switch Types of 10G Optical ModulesShort-Range Multimode Fiber (SR)Uses 850 nm VCSEL lasers and OM3/OM4 multimode fiberTypical reach: 300–400 metersCost-effective, low-power, ideal for high-density switch-to-switch or server connections within a data center Long-Range Single-Mode Fiber (LR/ER/ZR)Uses 1310 nm or 1550 nm lasersReach ranges from 10 km (LR) to 80 km (ER/ZR)Suitable for inter-building or metro network connections Copper Direct Attach (DAC) / Active Optical Cables (AOC)Twinax copper cables for short distances (up to 7 m passive, 15 m active)Lower latency and cost for rack-to-rack connections Compatibility Considerations10G SFP+ modules cannot operate in 1G SFP ports, though many 10G SFP+ ports support 1G SFP modules.

Interoperability: Cisco SFP+ modules can interoperate with XENPAK, X2, and XFP interfaces on the same link. Digital Optical Monitoring (DOM): Many modules provide real-time diagnostics for optical power, temperature, and voltage.

Applications

Data Centers: High-speed server-to-switch and switch-to-switch linksEnterprise Networks: Core and aggregation layer connectionsTelecom/ISP Networks: Metro and long-haul fiber linksHigh-Performance Computing: Low-latency, high-bandwidth interconnects 10G SFP+ modules remain the default choice for short-range 10GbE deployments due to their balance of cost, performance, and power efficiency. For longer distances or specialized applications, LR, ER, or DAC/AOC variants are selected based on reach and infrastructure requirements.

Article Content

Cisco Transceiver Modules

The Cisco 10GBASE DWDM SFP+ Modules (Figure 1) are fiber transceivers for a wide variety of Cisco switches, routers, and other equipment.

10 Gigabit Ethernet

The 10 gigabit module standard is the Enhanced Small Form-factor Pluggable transceiver, generally called SFP+. Based on the Small Form-factor Pluggable (SFP) transceiver and developed by the

SFP3213-10: 10 Gigabit SFP Module for Switches

© 2026 ENSAA OPTICAL NETWORKS - All rights reserved

The transceiver provides 10 Gbps serial optical data transfer rates on a single duplex fiber core up to 10,000 meters at 1,310 nm wavelength, ideal for

Cisco 10GbE Optics Guide

With 10GbE, it is possible to get optics modules that output at DWDM wavelengths, allowing for much simpler DWDM deployments, and with these optics no additional transponder hardware is required.

What Is 10GBASE-SR? Complete Guide to 10G SFP+ SR Optics

As enterprise networks, cloud data centers, and high-performance computing environments continue to scale, 10 Gigabit Ethernet (10GbE) remains one of the most widely deployed link speeds. At the

Introduction of 10G SFP+ Optical Modules

10G SFP+optical module is a popular category widely used in data centers, enterprise networks, edge devices, and CPEs. Function: They''re transceiver modules used for 10 Gigabit

Introduction of Cisco 10G SFP+ Modules

Cisco 10G SFP+ modules are optical devices intended for 10 Gigabit Ethernet deployments in diverse networking environments. They offer customers a wide variety of 10 Gigabit

10 Gigabit Optical Transceivers | SFP+ and XFP

Perle 10G Optical Transceivers available as SFP+ and XFP modules can be used in Perle Media Converters, Cisco switches and routers for fiber connectivity

gigabit managed switch with warranty online manufacture

NetEngine AR6280 14 Gigabit Optical + 10 Gigabit Electric Enterprise Multi-Service Route Enterprise network router MPLSr NetEngine AR6280 integrated chassis, 1*SRU slot, 4*SIC slot, 2*WSIC slot,

Cisco SFP and SFP+ Transceiver Module Installation Notes

Use only Cisco SFP transceiver modules on your Cisco device. Each SFP transceiver module supports the Cisco Quality Identification (ID) feature which allows a Cisco switch or router to

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

© 2026 ENSAA OPTICAL NETWORKS - All rights reserved

Secure & Reliable Fiber Optic Connectivity Solutions

Fiber Optic Network Switches Varying Port Sizes Available 10/100Base, 1000Base Gigabit, 10 Gigabit Network Speeds Supported Seamless Transmission and Conversion from Ethernet Media to

angola-gigabit-industrial-optical-modules Manufacturer/Producer

All suppliers for angola-gigabit-industrial-optical-modules Manufacturer/Producer Find wholesalers and contact them directly B2B martketplace Find companies now!

Huawei S220-24T4X 24 Port Managed Switch

Buy original Huawei eKit S220-24T4X 24-Port Gigabit Web-Managed Switch in Myanmar. Features 4x 10GE SFP+ uplink ports & 128 Gbps fabric. Best price in Yangon.

Cisco 10GBASE SFP+ Modules Data Sheet

Product overview 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

800G Client Optics in the Data Center

The vast data centers used by cloud service providers have thousands of identical racks of servers and networking equipment. When hyperscale data center operators start deploying a new generation of

What is a gigabit switch?

What is a gigabit switch? A gigabit switch is a type of network switch, typically Ethernet-based, that allows devices to be connected to a LAN at speeds of 1 Gbps or higher. Gigabit Ethernet replaced

IEBY-1 Industrial Gigabit Ethernet Bypass Switch

About this product Industrial Gigabit Ethernet Bypass Switch. The IEBY can be integrated in any MPL embedded computer solution (PIP, CEC, MXCS) or networking products. (The solution is also

© 2026 ENSAA OPTICAL NETWORKS - All rights reserved

Contact Us

Continue your research online:

Website: https://ensaa.es
Technical inquiry: https://ensaa.es/contact.html

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

© 2026 ENSAA OPTICAL NETWORKS - All rights reserved