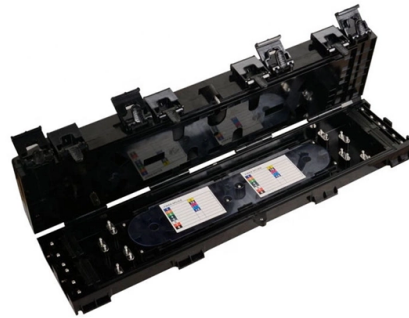


Optical transceiver and optical module model



AI Overview

Optical transceiver modules come in various models and form factors, including SFP, QSFP, OSFP, and CFP, supporting speeds from 100M to 800G and beyond for diverse networking applications.

Common Form Factors and Models

- SFP (Small Form-factor Pluggable):** Compact modules for 1G, 10G, and 25G networks, widely used in enterprise and data center switches.
- QSFP (Quad Small Form-factor Pluggable):** Supports 40G, 50G, 100G, and 200G speeds; QSFP-DD (Double Density) extends to 400G.
- OSFP (Octal Small Form-factor Pluggable):** Designed for high-speed 400G and 800G applications, often used in AI and high-performance computing data centers.
- CFP/CFP2/CFP4:** Larger modules for 100G and 400G coherent transmission, suitable for long-haul and metro networks.
- XFP and CXP:** Older or specialized modules for 10G-100G applications, sometimes used in legacy systems.

Key Specifications

When selecting a module, consider:

- Data Rate:** Modules range from 100M, 1G, 10G, 25G, 40G, 50G, 100G, 200G, 400G, to 800G.
- Wavelength:** Short-range (850 nm multimode), long-range (1310 nm or 1550 nm single-mode), and coherent transmission for ultra-long distances.
- Connector Type:** LC, SC, MPO/MTP, or proprietary interfaces depending on the module and network equipment.
- Reach:** Modules are designed for distances from a few meters (data center) to hundreds of kilometers (long-haul DWDM) with coherent or non-coherent optics.
- Power and Modulation:** Coherent modules support advanced modulation formats and higher optical power for extended reach.

Applications

- Data Centers:** High-density QSFP-DD and OSFP modules for AI, ML, and HPC workloads.
- Enterprise Networks:** SFP and QSFP modules for LAN, SAN, and campus networks.
- Telecommunications:** CFP and coherent modules for metro, regional, and long-haul DWDM networks.
- Fiber-to-the-Premises (...)**

Article Content

Cisco 40GBASE QSFP Modules Data Sheet

Cisco QSFP-40G-CSR-S (S-Class) The QSFP-40G-CSR-S is a pluggable optical transceiver with a duplex LC connector interface used for

Small Form-factor Pluggable

Small Form-factor Pluggable (SFP) is a compact, hot-pluggable network interface module format used for both telecommunication and data communications

Alternatives and similar models for SFP+ transceiver CBO SFP-10G

Summary description: CBO SFP-10G-ER is an SFP+ optical transceiver supporting 10 Gbps data rate for single-mode fiber links with a reach of up to 40 km. Designed for high-speed uplinks and

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

Hardware Compatibility Tool | Juniper Networks Pathfinder

Juniper Networks Hardware Compatibility Tool helps you find the transceivers or optics, line cards, and interface modules that are supported on Juniper Networks products.

What is an Optical Transceiver? – VCELINK

How Does an Optical Transceiver Work? The optical transceiver is essential in fiber optic communication for transmitting and receiving data. In

The Rise of Co-Packaged Optics (CPO) and Silicon Photonics in

As generative AI models scale, traditional pluggable optical transceivers face a power-performance wall. Co-packaged Optics (CPO) and Silicon Photonics address this by integrating

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Cisco SFP and SFP+ Transceiver Module Installation

This installation note provides the installation instructions for the Cisco small form-factor pluggable (SFP) and SFP+ transceiver modules. These

Optical module

Optical modules typically have an electrical interface on the side that connects to the inside of the system and an optical interface on the side that connects to the outside world through a fiber optic

The Ultimate Guide to Optical Transceivers: Types, Features & Selection

Master the world of optical modules. Learn how transceivers work, compare SFP vs QSFP, and discover engineering tips for troubleshooting and selection.

Understanding Optical Modules: Working Principles,

Explore the working principles, structures, and performance metrics of optical modules, essential components of optical fiber communication

The Difference Between Optical Modules and Fiber Optic Transceivers

In summary, optical modules and fiber optic transceivers differ significantly in terms of conceptual nature, port type, functional characteristics and application scenarios.

Connectors, Cables, Optics, RF, Silicon to Silicon

Optics Samtec is the industry-leading provider of mid-board optical transceiver solutions. This growing and comprehensive family of products provides reliable

What is an Optical Module?

Today, when we talk about optical modules, we usually mean optical transceivers (and this will be the case throughout the text). Optical modules operate at the

Optical module design resources | TI

View the TI Optical module block diagram, product recommendations, reference designs and start designing.

Cisco Networking for Service Providers

Find the scalable network infrastructure and software solutions to address your challenges with Cisco Networking for service providers.

Understanding Optical Transceiver Modules: A Comprehensive Guide

Whether you're selecting an optical transceiver module for short-range multimode applications or long-haul coherent transmission, understanding these parameters ensures reliability

Cisco 10GBASE SFP+ Modules Data Sheet

This feature gives the end user the ability to monitor real-time parameters of the SFP, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

Secure & Reliable Fiber Optic Connectivity Solutions

Versiton specializes in designing and manufacturing copper-to-fiber connectivity solutions tailored for data, voice, and video applications across diverse

Cisco Optics | Transform Your Network

Get the highest quality, performance-leading optical transceivers for any network architecture. Find the transceiver model to fit your network.

The Most Comprehensive Guide Of Optical Modules

Explore the ultimate guide to optical modules. Learn types, functions, performance metrics & how to choose the right module for your fiber network.

Huawei AI CloudMatrix 384 - China's Answer to Nvidia

Huawei AI CloudMatrix 384 - China's Answer to Nvidia GB200 NVL72 China
Abundance of Power, 100% Optics, 0% Copper, Power

Learn About Optical Transceiver Modules in One Minute

The optical transceiver module works at the physical layer of the OSI model and is one of the key components in the optical fiber communication

Contact Us

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