Optical Interface Module Price

Article Overview

Optical modules use various electrical and optical interfaces, including SFP, SFP+, QSFP, OSFP, and CFP2, with prices ranging from $20 for basic SFP modules to several thousand dollars for high-speed coherent modules.

Common Optical Module Interfaces

Electrical Interfaces:

o SFP/XFP: Early small form-factor pluggable modules; SFP supports up to 4.25 Gbps, XFP up to 10 Gbps. Electrical interfaces include XFI for XFP and SFI for SFP+ modules .
o QSFP/QSFP28/QSFP-DD: Quad small form-factor pluggable modules supporting 40G, 100G, and 400G speeds. Electrical interfaces include CAUI-4, 4x25G, 8x50G, or 800GAUI-8 for OSFP/QSFP-DD .
o OSFP: Designed for 400G and 800G applications, supporting high-density data center deployments with electrical interfaces like OSFP MSA .
o CFP2-ACO: Analog coherent optics modules for long-haul coherent transmission, with DSP on the main board and analog optical components on the module . Optical Interfaces:
o LC Connector: Common for single-mode and multimode fiber; small form factor, widely used in SFP/SFP+ modules .
o SC Connector: Larger ferrule (2.5mm), push-pull design; gradually replaced by LC .
o MPO/MTP: Multi-fiber connectors integrating 12-24 fibers (up to 144 in some cases), used in 40G/100G/400G parallel optics . Fiber Type Compatibility:
o Single-mode fiber (SMF): Typically paired with 1310nm or 1550nm modules for long-distance transmission (up to 80 km), .
o Multimode fiber (MMF): Paired with 850nm modules for short-distance links (up to 300 m), .

Price Ranges

o Basic SFP modules (1G/10G, multimode): $20-$100 per module.
o SFP+ and QSFP+ (10G-40G, single-mode or multimode): $100-$500 depending on distance and vendor.
o QSFP28/OSFP (100G-400G, multimode or single-mode): $400-$1,500 for standard data center modules .
o High-speed coherent modules (CFP2-ACO, 400G-800G, long-haul): $2,000-$10,000+ depending on modulation format (DP-QPSK, QAM-16) and vendor .

Key Considerations
o Rate and Distance Matching: Ensure the module's data rate matches the switch or router port and the fiber type matches the module wavelength .
o Form Factor Compatibility: SFP, QSFP, OSFP, and CFP2 modules are not interchangeable; check device

support.
o Connector Type: LC, SC, or MPO/MTP must match the patch panel or fiber cabling.
o Power Consumption: High-speed modules (400G/800G) may consume 8-13.5 W per module .
o Vendor and Brand: Prices vary significantly between OEMs and third-party vendors; certified modules often cost more but ensure reliability. By selecting the appropriate interface type, fiber type, and form factor, you can optimize both performance and cost for your network deployment.

Fiber optic technology has revolutionized the way we transmit and receive data. With its ability to transmit large

How Optical Modules Operate Transmitter Optical Sub Assembly (TOSA) The TOSA manages light emission,

FS offers a growing portfolio of optical transceivers, with speed range from 100M, 1G, 10G, 25G, 40G, 50G, 100G, 200G, 400G to

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FS provides 50/25/10/1G transceivers modules in SFP/SFP28/SFP56/QSFP28 form factor, supporting

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Optical Module Procurement guide to pricing trends, OEM vs aftermarket insights, and strategic buying tactics to

Transceiver modules typically have an electrical interface on the side that

Single-Mode MiniGBIC module, Supports full-duplex Wave Length: 1310nm. Data Rate: 1.25Gbps. Port Type:

However, price sensitivity in developing markets often delays the adoption of premium optical solutions, and trade restrictions

Optical Interface Module Price

Cisco offers a comprehensive range of pluggable optical modules in the Cisco ONS

Troubleshooting Directions Common problems with optical modules and interfaces include

Cisco 7600 1-Port OC48c/STM16 POS/SDH Optical Services Module Cisco 7600 OC-12c/STM-4 POS/SDH Optical Services Module

ONS 15454 Optical Service Channel Module. ONS 15454 Enhanced Optical Booster Amplifier Module. ONS 15454 Optical Booster

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