

How much does a high-quality optical module cost



AI Overview

Optical module prices vary widely, from as low as \$5 for basic 1G SFPs to several thousand dollars for high-speed 400G/800G modules, depending on type, speed, and vendor. Typical Price Ranges by Speed and Type

1G SFP Modules: \$5–\$120 per unit. Generic or compatible modules are at the low end (\$5–\$25), while OEM-branded or industrial-grade modules can reach \$60–\$120+ (Cisco, HPE, Juniper).

10G SFP+ Modules: \$20–\$300 per unit. Compatible 10G SR modules often sell for tens of dollars, whereas OEM long-reach or DFB modules can cost several hundred dollars.

100G Modules: Typically \$150–\$200 per unit on average, with prices influenced by brand, reach, and technology.

400G/800G Modules: Prices are higher due to advanced technology and integration, often exceeding several hundred dollars per unit, with some specialized modules for AI or hyperscale data centers costing significantly more.

Factors Influencing Optical Module Prices

Technology and Speed: Higher-speed modules (100G, 400G, 800G) require more complex photonic components, increasing costs.

Brand and OEM vs Third-Party: OEM-branded modules generally cost more due to warranty, reliability, and compatibility assurances, while third-party or compatible modules are cheaper.

Raw Materials and Manufacturing: Lasers, silicon chips, and precision cleanroom manufacturing contribute significantly to module costs.

R&D and Innovation: Modules with new technologies, such as silicon photonics or pluggable coherent optics, carry higher premiums.

Market Dynamics: Supply-demand imbalances, data center expansion, and competition, especially from Chinese manufacturers, can drive prices down or up temporarily.

Market Trends

Average selling prices for mainstream modules are declining 15–20% annually due to competition. Emerging high-speed modules (400G/800G) are seeing increas...

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See practical price ranges for 1G–100G optical transceivers, DAC/AOC options, and why cost varies by speed, reach and technology — buying tips included.

Optical Transceiver Modules Prices & Specifications

What is Optical Transceiver Modules/SFP? Optical Transceiver Modules/SFP, also called fiber optic transceiver or optical transceiver, is a typically hot-pluggable

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Optical Module Procurement Guide

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

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400G Optical Modules Explained: SR4 Vs. DR4 Vs.

Key differences between SR4, DR4, FR4, and LR4 400G optical modules. Expert advice from Asterfusion engineers to optimize your data center

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.

SFP Module Price: Strategic Cost Analysis and TCO Factors

When upgrading a core switch or expanding a high-density data center fabric, the cumulative cost of optical transceivers can quickly eclipse the capital expenditure (CapEx) of the routing hardware itself.

Cost structure of optical module chips | Weyland

The overall cost of an optical module chip depends on material choices, design complexity, manufacturing processes, packaging, testing, and integration, all of which play a role in the final

SFP Module Prices Comparison by Top 5 SFP

This post hence illustrates the SFP module price comparison by researching top competitors' SFP price of our brand. The author hopes it can

Cost of optical module electronic chips | Weyland

In low-speed optical modules, their cost share is relatively low. However, in 400G, 800G, and future 1.6T optical modules, electronic chips can account for 20%-40% or more of total cost,

10G SFP Price Guide: How Much Does a 10G SFP Module Cost

Learn the latest 10G SFP price ranges, key cost factors, brand comparisons, and how to buy reliable 10G SFP modules at the best value.

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What factors influence 400G optical transceiver

Discover the key factors that drive 400G optical transceiver pricing—from form-factor and component costs to market dynamics and sustainability.

800G Optical Module Cost Analysis | TCO Optimization Guide

Complete guide to 800G optical module costs and TCO optimization for AI data centers. Includes pricing analysis, cost comparison, vendor strategies, and ROI calculations for informed

QSFP-DD Price Guide 2026: 400G/800G Costs & TCO Analysis

This guide delivers clear, accurate pricing data. It breaks down the current costs for 400G and 800G modules, provides an objective comparison between OEM and third-party products,

Contact Us

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