

How much does a 400G optical module smart module cost



AI Overview

The price of a 400G optical module ranges from approximately \$1,400 for short-reach SR8 modules to over \$130,000 for long-haul ZR+ modules, depending on type, reach, and vendor.

Pricing Overview

- Short-Reach (SR8) Modules:** Designed for in-rack or cross-row connections, these modules are the most economical, typically priced between \$1,400 and \$1,800 from reputable third-party vendors.
- Medium-Reach (DR4/FR4) Modules:** Used for inter-row or campus links, prices are higher due to more advanced components, but competitive third-party markets have compressed costs significantly.
- Long-Reach (LR4, ZR, ZR+) Modules:** Intended for data center interconnects (DCI) or long-haul transmission, OEM LR4 modules can exceed \$10,000, while ZR+ modules may surpass \$130,000.

Factors Affecting Price

- Form Factor and Compatibility:** QSFP-DD and OSFP modules differ in size, thermal management, and integration complexity, affecting cost by 5–15% or more.
- Components and Materials:** DSP chips (\$150–\$300), lasers (VCSELs for SR4, EML/DFB for FR4/LR4), connectors, and specialty metals contribute significantly to the bill of materials.
- Supply Chain and Market Conditions:** Semiconductor shortages, shipping disruptions, and raw material price volatility can add up to 25% premiums for urgent orders.
- Testing and Compliance:** Modules undergo rigorous BER testing, eye-diagram analysis, and temperature cycling, which adds to the overall cost.
- Vendor Considerations**

OEM vs Third-Party: OEM modules often carry a premium due to brand, warranty, and certification, while third-party modules offer cost-effective alternatives without compromising performance for standard deployments.

Volume Discounts: Many vendors provide tiered pricing for bulk purchases, which can significantly reduce per-unit costs.

Market Context

The global 400G optical module market is projected to re...

Article Content

Unlocking the Power of 400G Optical Networks: A Deep

Effect on the Network Operators What Role Does Transceiver Technology Concerning 400G Modules? Understanding the 400G Optical

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,

400G Transceiver Guide: Architecture, Selection & TCO

The Definitive 400G Optical Transceiver Guide: Selection, Deployment, and TCO for 2025 The definitive guide to selecting, deploying, and

Understanding the Latest in 400g Transceiver

Explore our complete guide to 400G transceiver technology, including QSFP-DD modules and cables designed for data centers. Discover

200G/400G/800G Optical Transceiver Modules | FiberMall

200G/400G/800G optical module features up to 40km transmission distances using QSFP56/QSFP-DD footprints for data center interconnect applications - FiberMall

400G Optical Transceiver: Cisco 400G Optics, Pricing

A 400G optical transceiver is defined as a high-speed optical module that supports 400 Gigabit Ethernet (400GbE). It is primarily applied in data center

Overview of 400G Optical Modules

Although only one optical chip is used in a 400G optical module, the cost is high. In 10G/25G modules, optical chips make up about 30% of the cost;

400G Transceivers — Transceiver USA

Transceiver USA 400G QSFP-DD DR4 MPO-12 500m Optical Network Module
Transceiver USA's optical modules are used in datacenter and enterprise networks. They are compatible with Arista,

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

QSFP-DD price guide with 400G/800G module costs, OEM vs third-party comparison, volume discounts, and 3-year TCO analysis for data center buyers.

The Evolution of Optical Modules: 400G → 800G → 1.6T - A Strategic ...

400G vs 800G vs 1.6T: Quick Comparison 400G, 800G, and 1.6T optical modules differ primarily in bandwidth, power efficiency, and deployment scenarios. 800G optical modules provide

AshwinD24's gists · GitHub

GitHub Gist: star and fork AshwinD24's gists by creating an account on GitHub.

400G LR4 QDD-400G-LR4 QSFP-DD Module, Generic 1310nm 10km

The 400G LR4 module is designed to reach 10km distances over single-mode fiber (SMF) for 400 Gigabit Ethernet transmission. The 400 Gigabit Ethernet signal is carried over four CWDM grid

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What is the 400G Optical Module?

Nowadays, the progress of 400G optical module development and mass production is relatively satisfactory. In the current market background, the

400G Optical Modules: The Most In-Depth Q& A You'll

Recently, we've received numerous inquiries from users about 400G optical modules. As a mainstream optical module type today, there are several

Overview of 400G Optical Modules

In building 400G network systems, 400G optical modules play a critical role. So, what exactly is a 400G optical module, and how does it differ

400G Optical Transceiver: Cisco 400G Optics, Pricing

In this article, the 400G optical transceiver is thoroughly explained in terms of definition, major types, application scenarios, price and cost, as well as

400G vs 800G Optical Modules: Differences, Use Cases, and

Choosing between 400G and 800G optical modules depends on your workloads, scale, and budget. This guide breaks down the differences, use cases, and deployment advice in simple but

Cisco 400G QSFP Transceiver Modules Data Sheet

High-bandwidth transceiver modules based on the QSFP112 form factor, targeting NICs used in data centers, high-performance computing

Ultimate Guide to QSFP-DD 400G Optical Modules:

The QSFP-DD 400G optical module has become a key element in the fast-changing field of data transmission technology to improve network

Cisco 400G QSFP-DD High-Power (Bright) Optical Module

Cisco 400G QSFP-DD High-Power (Bright) Optical module's small size and low power make it an optimal choice for a wide range of DCI/Cloud, metro access/aggregation, wireless backhaul, and

The True Cost of 400G Ethernet: Unveiling Hidden Expenses and ...

The core components of any 400G Ethernet setup are the hardware (switches, routers, servers) and optical modules. These high-performance components come at a substantial cost.

Cisco 400G Optical Modules Price

Check Cisco 400G optical modules price, and buy them with best discount. Fast shipping and free tech support.

400G Optical Transceivers | OEM Compatibility

Our 400G optical transceivers are 100% compatible with leading OEM brands such as Cisco, Juniper, Arista, Huawei, Nokia, Dell, and more. This

Understanding the Full 400G Optical Module Suite

Introduction With increasing demand for higher bandwidth, lower latency, and efficient data center interconnects, 400G optical modules have

400G OSFP PAM4 Optical Transceiver Cisco Compatible

Discover 400G OSFP transceiver modules, offering VR4, SR4, and DR4 models with up to 500m distance for reliable networking.

400G Transceivers — Transceiver USA

Transceiver USA's optical QSFP and OSFP modules are used in enterprise and datacenter networks. View price, stock and buy direct from Transceiver USA.

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.

Save on Cisco 100G and 400G optics

Take advantage of volume discounts for Cisco optics and maximize the port utilization on your switches and routers. This promotion includes 100G optics with reaches up to 80 km and 400G optics with

Contact Us

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