

Article Overview

800G optical modules typically range from \$700 to \$1,900 depending on type and reach, while 40G modules are generally lower-cost, around \$100-\$400 for standard QSFP+ transceivers.

800G Optical Modules

The cost of 800G modules varies significantly based on form factor, reach, and technology:

- o 800G OSFP-DR8: \$1,100-\$1,400 (volume pricing for 1,000+ units)
 - o 800G QSFP-DD-DR8: \$1,000-\$1,300 (volume pricing)
 - o 800G OSFP-FR4: \$1,500-\$1,900 (longer reach, more complex optics)
 - o 800G LPO (Linear Pluggable Optics): \$700-\$900 (lower cost, no DSP)
- Factors affecting pricing include vendor tier (OEM modules like Cisco or Arista can be 30-50% more expensive than third-party compatible modules), volume discounts (10-30% for large orders), technology maturity (early-generation modules cost 40-60% more), and customization options such as special wavelengths or extended temperature ranges . 800G modules are increasingly adopted in AI-scale data centers and hyperscaler environments due to their higher bandwidth, improved power efficiency (~30-40% better per bit than 400G), and reduced fiber count .

40G Optical Modules

40G modules, typically in QSFP+ form factor, are widely used for enterprise and data center networks. Standard 40G QSFP+ transceivers for duplex multi-mode or single-mode fiber generally cost \$100-\$400, depending on reach and vendor . These modules are interoperable with IEEE 40GbE standards and are often used for migrations from 10G to 40G networks.

Comparison and Considerations

- o Bandwidth vs Cost: 800G modules provide 2x bandwidth and better power efficiency than 400G or 40G, but at a higher upfront cost.
 - o Deployment Scale: For large AI clusters or high-density data centers, 800G modules are cost-effective per bit despite higher CapEx. For traditional enterprise workloads, 40G or 400G modules remain more economical.
 - o Volume Discounts: Ordering in bulk can significantly reduce per-unit cost, especially for 800G modules.
 - o Vendor Choice: OEM modules offer guaranteed compatibility and support but at a premium; third-party modules can reduce costs by 30-50% .
- In summary, 40G modules are cost-effective for standard enterprise deployments, while 800G modules are an investment for high-performance, AI-focused, or hyperscale environments, with prices ranging from \$700 to nearly \$2,000 depending on specifications and vendor .



Cost 800G optical module 40G

Low Power Consumption and Latency: Compared to traditional 800G DSP-based transceivers that consume up to

FS offers a growing portfolio of 800/400/200/100/40G optical transceiver modules and cables. The super-high density and backwards

Explore the ultimate guide to optical modules. Learn types, functions, performance metrics

This guide delivers clear, accurate pricing data. It breaks down the current costs for 400G and 800G modules,

Introduction: Why 400G and 800G Matter? The rise of AI training, HPC (high-performance computing), and

Click to get your 40G QSFP+ transceiver modules from nearby warehouses. 30-Day Free Return. Trusted

The demand for high-speed datacom optical modules has surged, with shipments of 400G and 800G units exceeding

Understanding 800G Optical Modules: Types, Applications, and Solutions by Optech As the demand for faster data transmission

Ten years ago, 40G and 100G were cutting-edge. Today, many data centers are already migrating to 400G, and some are planning

Whereas 200Gbit/s PAM4 SiPh holds competitive advantages in terms of performance, cost, and industry chain

800G Optical Modules: QSFP-DD or OSFP 51.2T, 64 port, 800G in 2RU Stacked cages (two modules) Both above and below the

A deep technical comparison of 400G vs 800G optical module technology. Understand the key differences, benefits,

Discover everything about 800G optical modules--standards, packaging, types &

800G light modules are optical transceiver modules that support transmission speeds of up to 800 gigabits per second

From a technological perspective, both 400G and 800G QSFP-DD modules benefit from



Cost 800G optical module 40G

The 800G optical module market was valued at \$4.8 billion in 2025 and is projected to reach \$28.6 billion by 2034, growing at a

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