Low-power intelligent optical module pricing



Overview

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

Key Takeaways

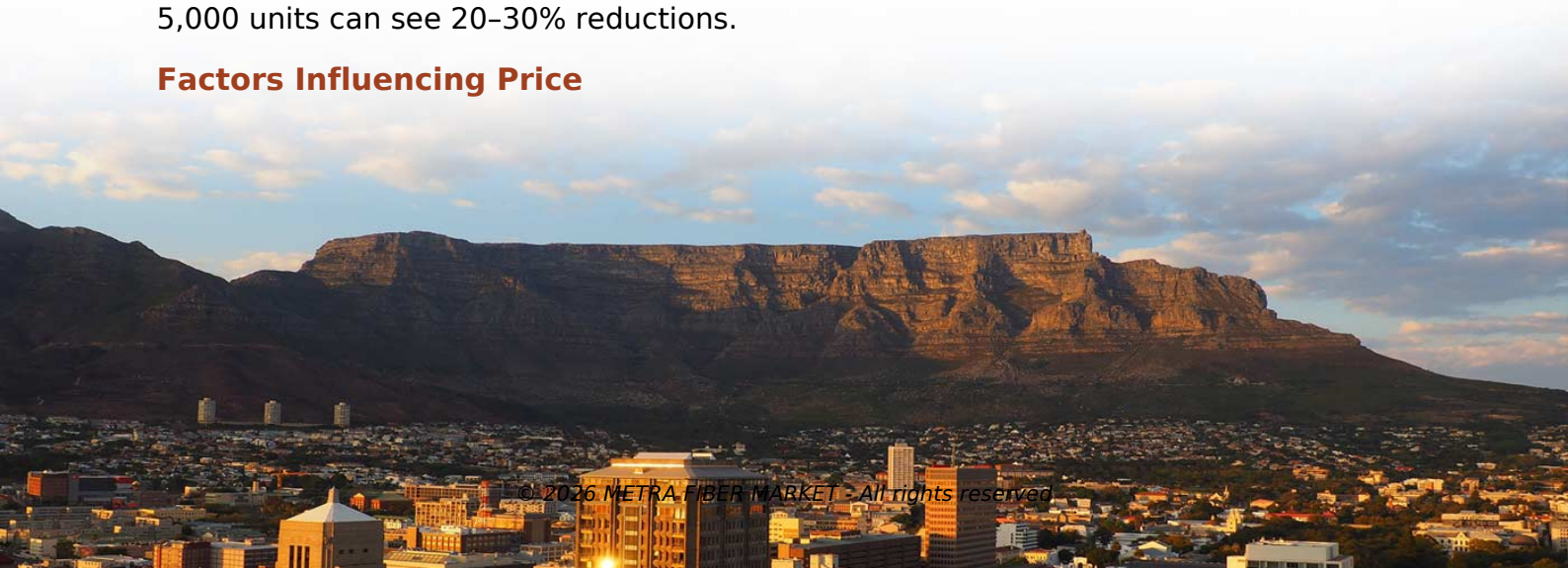
Low-power intelligent optical modules typically range from $700 to $1,900 per unit depending on type, reach, and vendor, with OEM modules commanding a premium over third-party options.

Pricing Overview800

G Linear Pluggable Optics (LPO): $700–$900 per unit for lower-cost, no-DSP modules; higher-end OSFP-FR4 modules for longer reach cost $1,500–$1,900 per unit (volume pricing for 1,000+ units). 800G QSFP-DD-DR8: $1,000–$1,300 per unit for high-volume orders. 400G QSFP-DD: $600–$800 per unit for comparison.

Vendor Premiums: OEM modules (Cisco, Arista) typically cost 30–50% more than compatible third-party modules due to longer warranties and support. Volume Discounts: Orders above 1,000 units may receive 10–20% discounts; orders above 5,000 units can see 20–30% reductions.

Factors Influencing Price



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Technology Type: Modules using newer architectures like LPO, NPO, or CPO often have higher initial costs due to specialized analog designs and reduced DSP usage, which lowers power consumption but may require precise host-side SerDes. Power Efficiency: Low-power modules save operational costs; for example, reducing power per port by 0. 36 W can save $0.

38–$0. 55 per port annually, scaling to thousands of ports for significant OPEX reduction. Raw Materials and Manufacturing: Costs of lasers, silicon chips, and precision cleanroom manufacturing contribute significantly to module pricing.

Market Dynamics: Supply constraints, demand surges, and early-generation technology adoption can temporarily increase prices by 20–60%. Customization: Special wavelengths, extended temperature ranges, or additional testing can add 15–30% to base prices. Total Cost of Ownership (TCO) ConsiderationsOperational Savings: Lower power consumption reduces cooling requirements and extends equipment life.

Warranty and Reliability: OEM modules offer longer warranties and lower downtime risk, which may justify higher upfront costs. Procurement Strategy: Planning purchases 6–12 months in advance and evaluating vendor reliability can optimize costs and avoid emergency price spikes. In summary, low-power intelligent optical modules are priced based on type, vendor, volume, and technology maturity, with LPO modules offering significant power and latency advantages for AI and HPC data centers, while careful procurement and volume purchasing can reduce overall costs.

Article Content

Low-Power Optical Modules Supplier Guide: to Lower Data center Costs

What vendors call “low-power”: in practice you''ll see modules marketed as “low-power SFP” or “energy-optimized SFP+” and manufacturers report typical reductions in the 20–35% range versus their

Optical Module Procurement Guide

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

Optical Interconnect Technology Analysis: LPO, NPO, CPO

Low Cost: DSPs account for a large portion of the BOM cost, reaching 20% to 40%. Removing the DSP chip effectively eliminates this cost. While integrating EQ functionality into the

Armored Fiber Optic Cables

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Get diverse armored fiber patch cables for stronger protection of the optical fibers and stable transmission to support fiber optic cabling in harsh environments.

LPO & Low-Power Optics Guide 2025 | Data Center Power Efficiency

Complete guide to Linear Pluggable Optics (LPO) for data centers. Learn how LPO reduces power in 400G/800G networks for AI/ML workloads.

SFP Module Price: Strategic Cost Analysis and TCO Factors

It also requires demystifying the physical parameters that dictate optical pricing—such as data transmission rates (e.g., 10GBASE-SR vs. 100GBASE-LR4), optical components (VCSEL vs. DFB

800G LPO Module: Enabling Low-Cost, Low-Latency Connectivity

Although integrating EQ into the Driver and TIA slightly increases the cost of LPO transceivers, LPO solutions still achieve an overall reduction in total system cost. This makes LPO

LightCounting :: September 2024 Optics for AI: 800G, 1.6T, LRO/LPO

To enhance support for intelligent computing networks, HiSilicon introduced some innovative optical module designs named “XingYun”. The XingYun intelligent modules are

QSFP28 Price Guide 2026: 100G Transceiver Costs & TCO

Real QSFP28 pricing for 2026: SR4, LR4, CWDM4, and single-lambda costs. Compare OEM vs third-party, volume discounts, and hidden TCO factors.

400G LPO QSFP112 FR4 Optical Transceiver Module | FiberMall

This 400G LPO QSFP112 module has low power consumption, which can reduce latency and meet our requirements in the data center. FiberMall LQSFP112-400G-FR4 uses LPO technology and is a high

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Coherent Optical Module Market Research Report 2033

The coherent optical module market was valued at $6.6 billion in 2025 and is projected to reach $21.7 billion by 2033, growing at 14.2% CAGR.

How to achieve low cost, low power consumption and high

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The third direction of optical module development: low cost, low power consumption The development of smaller and smaller communication devices, interface densities and interface boards

Global Coherent Optical Module Market Size, Growth Trends, Industry ...

However, ongoing innovations in low-power, high-capacity discrete modules, along with the deployment of coherent optical systems in undersea cables, suggest sustained growth.

Power Management for 10G SFP Optical Transceivers

Optimizing the power consumption of optical modules not only reduces operating costs and improves energy efficiency but also meets the requirements of green communications. In the

QSFP28 Price Guide 2026: 100G Transceiver Costs & TCO

QSFP28 Price by Module Type in 2026 Here is what QSFP28 modules typically cost in 2026. These are practical market ranges based on common third-party supplier pricing and publicly

Global Optics Module Market Size, Share, Trends & Forecast 2026-2034

The country''s focus on sustainability and energy efficiency influences the development of low-power, high-performance optical modules. Challenges include maintaining technological

Optical Module Evolution: From 400G to 3.2T

Second, optical modules directly influence power efficiency and port density. Hyperscale data centers deploy tens or even hundreds of thousands of optical modules.

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