

RIVO MULTITRADE OPTICAL SYSTEMS

How much do those mobile optical modules cost



Overview

The SFP module price generally ranges from \$15 to \$30 for standard 1G and 10G third-party transceivers.

Key Takeaways

Mobile optical modules range from a few dollars for basic 1G SFPs to over \$1,300 for high-end 800G modules, depending on speed, type, and vendor. Price Ranges by Module Type and Speed

- 1G SFP Modules: Generic or compatible modules typically cost \$5–\$25, while OEM-branded modules (Cisco, HPE, Juniper) can range from \$60–\$120+ for industrial or extended temperature versions .
- 10G SFP+ Modules: Compatible short-range (SR) modules sell for \$20–\$60, whereas branded long-range (LR/ER) modules can cost \$100–\$300+ .
- 25G SFP28 Modules: Low-cost compatible SR modules may be under \$30 for volume purchases, while OEM or specialized single-mode parts can reach several hundred dollars .
- 100G QSFP28 Modules: Prices vary widely based on design, testing, and vendor. Typical costs are influenced by chipsets, optical components, and production overhead, often ranging from \$200–\$600+ for standard modules .

- **400G and 800G Modules:** High-speed modules are significantly more expensive due to advanced DSP chips, silicon photonics, and complex packaging. For example, 800G OSFP or DR8/SR8 modules can cost \$800–\$1,300 per unit, with DSP chips alone accounting for 20–40% of total cost .

Factors Affecting Cost

- **Vendor and Brand:** OEM modules are more expensive due to warranty, compatibility, and quality assurance, while third-party compatible modules offer lower upfront costs.
- **Module Speed and Reach:** Higher-speed modules (400G, 800G) and long-reach modules require more advanced electronics and photonics, increasing cost.
- **Electronic Components:** DSP chips, driver ICs, and TIAs are major cost drivers, especially in 400G and 800G modules .
- **Engineering and Testing:** Design verification, reliability testing, and qualification processes add to the final price, particularly for high-speed modules .
- **Volume and Supply Chain:** Bulk purchases and established vendor relationships can reduce per-unit cost, while rare materials or low-yield production increase it.

Summary

In general, optical module costs scale with speed, complexity, and brand. Basic 1G–10G modules are inexpensive, often under \$100, while high-speed 400G–800G modules can exceed \$1,000 per unit. When planning purchases, consider total cost of ownership, including power consumption, compatibility testing, and replacement cycles, as these can significantly impact long-term network investment .

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