

Prices of Single-Mode and Multimode Optical Modules

Article Overview

Multimode optical modules typically range from \$5 to \$100+, while singlemode modules can range from \$20 to several hundred dollars depending on speed, reach, and OEM vs compatible options.

Multimode Optical Modules (MMF)

Multimode modules, such as 1000BASE-SX SFPs or 100GBASE-SR4 QSFP28, are designed for short-range connections (up to 100-400 meters depending on fiber type OM3/OM4/OM5) and generally cost less than singlemode modules. Typical market prices are:

- o 1G SFP multimode: \$5-\$25 for compatible/third-party units, \$60-\$120+ for OEM-branded modules (Cisco, HPE, Juniper)
- o 10G SFP+ SR modules: \$30-\$80 for compatible units, \$150-\$300+ for OEM or industrial-grade modules
- o 100G QSFP28 SR4 modules: \$200-\$400 for compatible modules, OEM units can exceed \$500 depending on brand and warranty. These modules use 850nm wavelength and are suitable for data center uplinks, enterprise LANs, and campus networks.

Singlemode Optical Modules (SMF)

Singlemode modules, such as 1000BASE-LX/LH SFPs or 100GBASE-LR1 QSFP28, support longer distances (up to 10 km or more) and higher-performance applications. Pricing is generally higher due to the longer reach and laser technology:

- o 1G SFP singlemode: \$10-\$40 for compatible units, \$80-\$120+ for OEM modules
- o 10G SFP+ LR/ER modules: \$50-\$150 for compatible units, \$200-\$500+ for OEM or extended-reach modules
- o 100G QSFP28 LR1 modules: \$400-\$700 for compatible modules, OEM units can exceed \$1,000 depending on distance and brand. Singlemode modules typically operate at 1310nm or 1550nm wavelengths and are used for long-haul links, metro networks, and high-speed backbone connections.

Factors Affecting Prices

- o Speed and Reach: Higher-speed modules (10G, 25G, 40G, 100G) and longer-reach modules cost more.
- o OEM vs Compatible: OEM-branded modules are significantly more expensive than third-party compatible units.
- o Environmental Specs: Industrial or extended-temperature modules add to the cost.
- o Fiber Type: Multimode modules are cheaper due to lower laser requirements, while singlemode modules require precise DFB lasers for long distances. In summary, multimode modules are cost-effective for



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short-range applications, while singlemode modules are more expensive but necessary for long-distance or high-performance networks. Choosing between OEM and compatible modules can significantly impact procurement budgets.

Single Mode SFP (SMF) transceivers utilize a narrow 9µm core for long-range, high-bandwidth laser transmission,

Learn the complete differences between single mode and multimode fiber optic cables, including distance, core size, wavelength,

Compare Single Mode vs Multimode fiber optic cables. Expert analysis on distance, bandwidth, 800G

Learn the key differences between single-mode and multimode fiber optic cables, including distance, bandwidth, and

Single Mode Optical Modules Market size was valued at USD 5.8 billion in 2025. The market is projected to grow from USD 6.3

Dive into an in-depth comparison of single mode and multimode fiber optic cables. Discover key differences, benefits,

Amphenol SFP Optical Modules o SFP+ Optical Modules from Cables on Demand are Now Available in both Short Range (SR)

Learn the key differences between single mode vs multimode fiber optic cables, including core size, distance,

The optical module (optical module) is composed of optoelectronic devices, functional circuits and optical interfaces.

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This post hence illustrates the SFP module price comparison by researching top competitors" SFP price of our brand.

Choosing between Single Mode and Multimode Optical Modules will shape cost, reach and upgrade paths. This guide breaks down

Prices of Single-Mode and Multimode Optical Modules

There are two main types of fiber optic cables: single mode and multimode. Although they

Explore single mode 10G SFP+ modules, including LR, ER, and ZR types. Compare prices, distances, and compatibility to choose

Understand the difference between single mode and multimode fiber, including performance, cost, and use cases, to choose the right

Single-mode or multimode transceivers. Learn about the differences and how they can help your data center.

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