

How much does a 6G optical module cost

Article Overview

6G optical modules typically cost between \$50 and \$150 per unit, depending on type, distance, and vendor.

Price Ranges by Module Type

- o 6G SFP+ LR (Long Reach, 10 km, 1310nm): Available from vendors like FiberMall, these modules are designed for single-mode fiber and can transmit up to 10 km. Prices for such modules generally fall in the \$100-\$150 range depending on brand and purchase volume .
- o 6G SFP+ IR (Intermediate Reach, 2 km, 1310nm): Modules like AscentOptics' SFP-6GSM31-02C support 2 km transmission over single-mode fiber and are considered cost-effective, typically priced around \$50-\$100 per unit .

Factors Affecting Cost

- o Transmission Distance: Longer reach modules (LR) are more expensive than shorter reach (IR) modules due to higher-quality lasers and optical components.
- o Brand and OEM vs. Compatible Modules: Branded OEM modules often carry a 20-40% premium over aftermarket or compatible modules, reflecting warranty, support, and reliability .
- o Technology and Materials: Costs are influenced by lasers, photodiodes, silicon chips, and precision manufacturing in cleanroom environments .
- o Market Demand and Supply: Legacy modules like 6G SFP+ may fluctuate in price due to lower production volumes and demand for newer high-speed modules (25G, 40G, 100G), which can create temporary scarcity .

Practical Considerations

- o Volume Purchases: Buying in bulk can reduce per-unit cost.
- o Vendor Selection: Ensure modules are tested and certified to meet SFP+ MSA standards and digital diagnostics functions for reliability .
- o Total Cost of Ownership: Consider warranty, support, and replacement ease when comparing prices, as cheaper modules may incur higher operational costs over time . In summary, expect to pay roughly \$50-\$150 for a 6G SFP+ optical module, with higher prices for long-reach or branded OEM units, and lower prices for short-reach or compatible aftermarket modules.

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The Blackmagic Design 6G SFP Optical Module provides a dependable way to transmit 6G SDI signals over single-mode optical

Overview The SFP-6G31-LR is a specialized optical transceiver module designed for robust performance in 6Gb/s data links. This

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