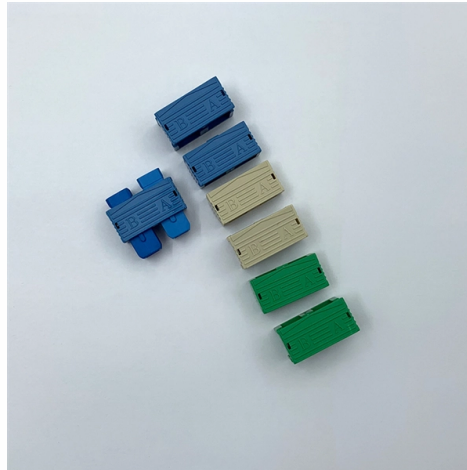


Cost of AEC and optical modules



AI Overview

400G AEC cables cost around \$150, 800G AEC about \$250, while optical modules range from under \$100 for short-reach 100G units to several thousand dollars for long-reach variants.

AEC (Active Electrical Cables) Costs Active Electrical Cables (AEC) are used for medium-range interconnects, typically 5-7 meters, in AI and cloud data center networks. Current market prices for AEC are approximately \$150 for 400G and \$250 for 800G units. With increasing competition and new manufacturers entering the market, prices are expected to drop by roughly 20% per year. The AEC market is projected to grow from under \$300 million to around \$600 million next year, reflecting rising demand in cloud and AI deployments, particularly from providers like AWS and Microsoft.

Optical Module Costs Optical modules, such as SFP28, QSFP28, and QSFP56 transceivers, are standalone devices that connect to fiber optic cables. Short-reach 100G modules (e.g., SR4 QSFP28) can cost as low as \$99 per unit, while branded long-reach modules (LR/ZR variants) can reach several thousand dollars, depending on distance, type of fiber, and vendor support. Optical modules offer maximum flexibility and reach, supporting distances from 100 meters to over 80 kilometers, but they incur higher CAPEX per link and greater power consumption compared to DAC or AOC solutions.

Cost Comparison and Considerations

- DAC (Direct Attach Copper):** Cheapest for very short links ($\leq 3-5$ m), low latency, low power, limited reach.
- AOC (Active Optical Cable):** Mid-range cost, suitable for medium distances ($\approx 5-30$ m), integrates optical modules and fiber, reduces EMI, and simplifies deployment.
- AEC:** Slightly higher cost than ACC for medium distances, supports longer interconnects within racks, and partially replaces short-distance AOC or multimode optical modules.
- Optical Modules + Fiber:** Highest cost, required for long-distance or carrier-grade links, with flexibility in fiber type and reach.

In summary, AEC provides a cost-effective solution for medium-range interconnects, w...

Article Content

Comparing AOC, DAC, ACC, and AEC Cables for AI and Data Center

DAC cables do not incorporate optical-electrical conversion modules, making them highly cost-effective. The simple copper connectors at each end keep costs down while still providing high

LPO optical module

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Learn how to match transmission distance ($\leq 3\text{m}$ to $> 100\text{m}$), cost, and performance to your data center needs, from cost-effective DAC for intra-rack links to long-distance optical modules.

Credo Technology Group Holding Ltd (NASDAQ:CRDO) Q2 2026

Credo Technology Group Holding Ltd (NASDAQ:CRDO) Q2 2026 Earnings Call Transcript December 1, 2025 Credo Technology Group Holding Ltd beats earnings expectations.

Optical Modules Market Research Report 2034

These structural tailwinds, combined with ongoing cost reductions enabled by silicon photonics integration and wafer-scale manufacturing, position the optical modules market for robust

Choosing Between 400G DAC, AOC, ACC, and AEC: A Simple Guide

Due to the generally higher cost of optical fibers compared to copper cables, the price of 400G AOC is typically higher than that of 400G DAC (assuming similar levels or packaging).

How Much Does An ANSYS License Cost?

How Much Does an ANSYS License Cost? Short answer: commercial ANSYS bundles often start in the low five figures and can scale to enterprise totals in the six and even seven figures

Contact Us

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