Which brand of multimode fiber optic cable should you choose



Overview

Compare all five multimode fiber grades — OM1 through OM5 — with full specs, bandwidth, distance limits, and real-world data center use cases.

Key Takeaways

For most modern enterprise and data center applications, OM4 or OM5 multimode fiber cables are the best choice due to their high bandwidth, longer reach, and future scalability. Overview of Multimode Fiber TypesOM1 (62. 5 µm core): Legacy fiber, supports 10 Gigabit Ethernet up to 33 meters, typically used for 100 Megabit Ethernet.

Uses LE

D light sources and is largely outdated for modern networks. OM2 (50 µm core): Supports 10 Gigabit Ethernet up to 82 meters, also LED-based. Rarely chosen for new installations due to limited 10G reach.

OM3 (50 µm, laser-optimized): Supports 10G Ethernet up to 300 meters and 40G/100G up to 100 meters. Aqua jacket, compatible with VCSEL transceivers, ideal for standard data center distances. OM4 (50 µm, enhanced laser-optimized): Extends 10G Ethernet reach to 550 meters, supports 40G/100G at longer distances than OM3.

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Fully backward compatible with OM3, making it a cost-effective upgrade for future-proofing. OM5 (50 µm, wideband SWDM): Supports Short Wavelength Division Multiplexing (SWDM), allowing multiple wavelengths over a single fiber. Best for future scalability and high-speed applications, but more expensive and only necessary if SWDM is planned.

Choosing the Right Cable

Distance and Speed Requirements: For standard 10G links within a data center, OM3 is sufficient. For longer 10G spans or 40G/100G traffic, OM4 is recommended. If planning for SWDM or future high-bandwidth upgrades, OM5 is ideal.

Cost Considerations: OM1 and OM2 are cheaper but limited in performance and not recommended for new installations. OM4 offers a balance of cost and performance for most enterprise networks. OM5 is the most expensive and should be chosen only if SWDM deployment is expected.

Compatibility: Ensure the fiber type matches your transceivers (LED vs.

VCSE

L laser). OM3, OM4, and OM5 are laser-optimized and compatible with modern 10G/40G/100G equipment.

Recommendation

For new installations or upgrades, OM4 multimode fiber is generally the best choice due to its extended reach, high bandwidth, and backward compatibility with OM3. OM5 is suitable if you want to future-proof for SWDM and ultra-high-speed applications, but it comes at a higher cost. Avoid OM1 and OM2 unless maintaining legacy infrastructure.

Choosing the right multimode fiber ensures reliable performance, cost efficiency, and scalability for current and future network demands.

Article Content

Multimode Fiber Cable Types: OM1/OM2/OM3/OM4/OM5 Compared

Compare all five multimode fiber grades — OM1 through OM5 — with full specs, bandwidth, distance limits, and real-world data center use cases. Learn which grade fits your

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Multimode Fiber Types: OM1 vs OM2 vs OM3 vs OM4 vs OM5

Identified by ISO 11801 standard, multimode fiber optic cables can be classified into OM1 fiber, OM2 fiber, OM3 fiber, OM4 fiber and newly released OM5 fiber. The next part will compare

OM1 vs OM2 vs OM3 vs OM4 vs OM5 Multimode Fiber Guide

Compare OM1, OM2, OM3, OM4, and OM5 multimode fiber specs, distances, bandwidth, and applications. Essential guide for data center fiber selection.

OM2, OM3, OM4 vs. OM5 | How to Choose the Right Fiber Optic

The difference between multimode fiber optic cables is important when choosing the right cabling for your network. Therefore, we take a detailed look at the four multimode types and provide

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Single-mode optical fiber

In fiber optics, a quadruply clad fiber is a single-mode optical fiber that has four claddings. Each cladding has a refractive index lower than that of the core.

Fiber Optic Cable Types: How to Select the Best Option for Your

850 nm Multimode Fiber: How to Choose the Right Cable Discover how to select the ideal fiber optic cable type for your network to optimize performance, ensure compatibility, and

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