

Om3 Multimode Fiber Optic Cabling



Overview

Understanding OM3 Multimode Fiber: Advanced Guide on Fiber Optic Explore our advanced guide on OM3 multimode fiber optic cables to understand the difference.

Key Takeaways

OM3 multimode fiber is a laser-optimized 50 μm fiber designed for high-speed, short-to-medium distance networks, supporting 10G Ethernet up to 300 meters and higher-speed links at moderate distances.

- Core Diameter: 50 micrometers, allowing multiple light modes to propagate simultaneously .
- Bandwidth: Up to 2000 MHz·km, optimized for VCSEL (Vertical-Cavity Surface-Emitting Laser) sources at 850 nm .
- Jacket Color: Aqua, distinguishing it from older OM1/OM2 fibers (orange) and OM5 (lime green), .
- Supported Data Rates: 10G Ethernet up to 300 meters, 40G and 100G Ethernet up to 100 meters .
- Compatibility: Backward compatible with OM1 and OM2 fibers, allowing integration into existing multimode networks .

Advantages

- Cost-Effective: Uses lower-cost VCSEL transceivers compared to single-mode fiber lasers .

- **High Performance:** Optimized for high-bandwidth applications in data centers, LANs, and storage area networks .
- **Ease of Installation:** Larger core diameter tolerates more alignment variance, simplifying deployment and maintenance .

Applications

OM3 fiber is widely used in:

- **Data Centers:** For 10G, 25G, and moderate-distance 40G/100G links .
- **Enterprise Networks:** Connecting buildings or floors within a campus .
- **Storage Area Networks (SANs):** High-speed interconnects between servers and storage devices .

Comparison with Other Multimode Fibers

- **OM1:** 62.5 μm core, LED-based, supports 10G only up to 33 meters .
- **OM2:** 50 μm core, LED-based, supports 10G up to 82 meters .
- **OM4:** Enhanced laser-optimized 50 μm fiber, supports 10G up to 550 meters and higher-speed links at longer distances .
- **OM5:** Wideband multimode fiber (lime green), supports short-wavelength division multiplexing (SWDM) for 100G+ applications . OM3 remains a cost-effective choice for most 10G deployments and moderate-speed 40G/100G links, making it suitable for current enterprise and data center networks without the higher cost of OM4 or OM5.

Article Content

Multi-mode optical fiber

A stripped multi-mode fiber Multi-mode optical fiber is a type of optical fiber mostly used for communication over short distances,

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What does OS1, OS2, OM1, OM2, OM3 and OM4 mean? | Proterial Cable ...

These are fiber optic cable designations that originated in the international ISO/IEC 11801 standard. The designations indicate a

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

