Commonly Used Multimode Fiber Types



Overview

OM1-OM5 multimode fiber standards, detailing their core sizes, jacket colors, transmission capabilities and more.

Key Takeaways

OM3 and OM4 multimode fibers are the most commonly used types in modern enterprise networks and data centers.

Overview of Multimode Fiber

Multimode fiber (MMF) is designed for short-distance communication, typically within buildings, campuses, or data centers. It has a larger core diameter (50 µm or 62. 5 µm) that allows multiple light modes to propagate simultaneously, enabling higher data throughput over short distances compared to single-mode fiber.

MM

F is cost-effective, easier to install, and widely used for local area networks (LANs) and high-speed data center connections. Fiber Types and UsageOM1: Core diameter 62. 5 µm, LED light source, orange jacket.

Mostly used in legacy networks for 100 Mbps Ethernet, capable of 1G up to 275 meters and 10G up to 33 meters. Rarely used in new installations. OM2: Core diameter 50 µm, LED light source, orange jacket.

Suitable for 1G Ethernet and limited 10G applications up to 82 meters. Still found in older infrastructures. OM3: Core diameter 50 µm, laser-optimized for VCSELs, aqua jacket.

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Supports 10G Ethernet up to 300 meters, 40G/100G up to 100 meters. Commonly used in modern enterprise networks and data centers. OM4: Core diameter 50 µm, laser-optimized, aqua or violet jacket.

Higher modal bandwidth than OM3, supports 10G Ethernet up to 550 meters and 40G/100G up to 150 meters. Increasingly adopted for high-speed, high-density applications. OM5: Core diameter 50 µm, wideband multimode fiber (WBMMF), lime green jacket.

Backwards compatible with OM4, designed for short-wavelength division multiplexing (SWDM) to support multiple wavelengths over a single fiber. Adoption is growing but still less common than OM3/OM4.

Conclusion

For most modern installations, OM3 and OM4 fibers are the standard choice due to their compatibility with high-speed Ethernet (10G, 25G, 40G, 100G), cost-effectiveness, and widespread availability. OM1 and OM2 are largely legacy fibers, while OM5 is emerging for specialized high-bandwidth applications but is not yet as widely deployed.

Article Content

A Guide to Multimode Fiber Types (OM1-OM5) –

OM1-OM5 multimode fiber standards, detailing their core sizes, jacket colors, transmission capabilities and more.

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.

Multimode Fiber Types: OM1 vs OM2 vs OM3 vs OM4

A complete guide to multimode fiber types OM1, OM2, OM3, OM4, and OM5. Compare speed, distance, bandwidth, and applications, and learn how

Multimode Fiber Types Introduction and Application

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 these fibers

Everything You Need to Know About Multimode Fiber Cable

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Q: What types of multimode fiber are available? Multimode fibers are categorized into OM1, OM2, OM3, OM4, and OM5, each with varying bandwidth and distance capabilities to suit

Single Mode vs. Multimode Fiber: Core Differences and Selection Guide

How do you choose between single mode and multimode fiber? Compare their differences in core size, light source, bandwidth, transmission distance, and cost to identify the right application.

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

In this article, we dive into the world of multimode fibers, comparing the five major types: OM1, OM2, OM3, OM4, and OM5, to help you make the best decision for your network.

Multi-mode optical fiber

Multi-mode optical fiber is a type of optical fiber mostly used for communication over short distances, such as within a building or on a campus. Multi-mode links can be used for data rates up to 800 Gbit/s.

Guide To Multimode Fiber (62.5um & 50um, OM1 to OM5)

As mentioned earlier, there are 5 commonly used multimode fiber types used in most industries worldwide. The most common optical multimode fiber types are

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Compare copper vs fiber cabling: UTP categories and the 100 m limit, multimode vs single-mode fiber, straight-through vs crossover, and connectors.

The FOA Reference For Fiber Optics

As the use of links at 100Gb/s or more become common, datalinks become more complex. Above about 25Gb/s, the average limit for direct modulation of typical laser sources, wavelength division

Single Mode vs. Multimode Fiber Optic Cables

There are two main types of fiber optic cables: single mode and multimode. Although they can do the same job in some instances, the different

Single Mode vs Multimode Fiber Explained | TRG Datacenters

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

Fiber Optic Cable Types Explained

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Our comprehensive guide to types of fiber optic cables. Learn all about the differences between single mode and multimode cables, as well as the various fiber wavelengths and standard core sizes used

All Kinds of Fiber Optic Patch Cords – SC, LC, FC, ST Explained

Learn about SC, LC, FC, and ST fiber optic patch cords, their uses in FTTH, telecom, and data centers, and how to choose the right type.

Fiber Connector Types: Lc Vs Sc Vs St Vs Fc — Which

Compare LC, SC, ST and FC fiber connectors by form factor, insertion loss, durability and best use cases. Clear guidance for data center, FTTH, industrial

Fiber Patch Cable Selection Guide 2026: How to Choose the Right

Executive Summary: Choosing the right fiber patch cable is one of the most consequential decisions in network infrastructure planning. The wrong choice — whether it''s an

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Multimode fiber comes in several sizes, defined by its core size and bandwidth specs. For many years premises applications primarily used 62.5/125 multimode fiber, originally called "FDDI fiber" because

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