

Different types of multimode optical fiber



Article Overview

Multimode optical fibers are classified into five main types: OM1, OM2, OM3, OM4, and OM5, each differing in core size, bandwidth, transmission distance, optical source, and typical applications.

Overview of Multimode Fiber

Multimode fiber (MMF) has a larger core diameter (50–62.5 μm) than single-mode fiber, allowing multiple light modes to propagate simultaneously. This makes MMF ideal for short- to medium-distance communication, such as within buildings, campuses, or data centers. MMF is cost-effective because it pairs with LED or VCSEL transceivers, which are cheaper and consume less power than single-mode laser modules.

Multimode Fiber Types

Type	Core Size	Jacket Color	Optical Source	Max Distance (10G Ethernet)	Typical Use
OM1	62.5 μm	Orange	LED	33 m	Legacy networks, 100M–1G Ethernet
OM2	50 μm	Orange	LED	82 m	1G Ethernet, limited 10G applications
OM3	50 μm	Aqua	VCSEL (laser-optimized)	300 m	10G Ethernet, 40G/100G up to 100 m, modern enterprise networks
OM4	50 μm	Aqua	VCSEL	550 m	High-speed 10G–100G links, data centers, backward compatible with OM3
OM5	50 μm	Lime Green	SWDM (shortwave wavelength division multiplexing)	Similar to OM4 for 10G, supports multiple wavelengths	Future-proof high-speed networks, supports wideband applications

Key Characteristics...

Article Content

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Application Fiber Optic connectors and cables are present in nearly every communications project that we might sell into, be it a DAS

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Multimode Fibers – optical glass fiber, large-core fibers, fiber ...

Multimode fibers are fibers supporting more than one guided mode per polarization direction – in some cases even a large number of

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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

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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

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Explore the world of optical fibers, the backbone of modern communication systems. This blog post delves into the

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Learn the key differences between single mode vs multimode fiber cables and choose the right one for your fiber optic

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

Compare OM1, OM2, OM3, OM4, and OM5 multimode fiber specs, distances, bandwidth, and applications. Essential

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Learn all about the differences between single mode and multimode cables, as well as the various fiber wavelengths and standard

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2 Types of Fiber Optic Cable: Single Mode vs. Multimode Fiber

Single mode fiber (SMF) and multimode fiber (MMF) optic cables are now widely used in diverse applications, but when

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Multimode Fibers: A Comprehensive Guide

Multimode fibers are a type of optical fiber that allows multiple modes of light to propagate through them

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OM1 Vs OM2 Vs OM3 Vs OM4 Vs OM5: Multimode Fibre Guide

Multimode optical fiber is the preferred choice for optical fiber communication systems due to its affordability and

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Fiber Optic Cable Types | Omnitron Systems Guide

Conclusion Understanding fiber optic cable types, fiber core sizes, and proper installation methods is

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Single Mode vs Multimode Fiber Cable

Multi-Mode Optical Fiber Cable : Multimode fiber cables are the type of fiber cables that transmit data via their core of

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Single Mode and Multimode Fiber: What's the Difference?

Learn more about Single Mode and Multimode Optical Fibers - their design, key differences, and intended fiber optic systems

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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

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Types of optical fibers

A comprehensive overview of the different types of optical fibers that arise due to the physical structure of their cores.

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Types of Optical Fibers: Single-Mode vs. Multimode, Applications and ...

Understanding the differences between single-mode, multimode, and specialty optical fibers, along with their

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

One such vital component is the optical fiber, specifically, the multimode fiber. In this article, we dive into the world of

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Multimode Fiber Types: OM1 vs OM2 vs OM3 vs OM4

The types of multimode fiber are distinguished by their core diameters, transmission performance, and

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