What are the two main types of multimode fiber



Overview

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.

Key Takeaways

The two primary types of multimode fiber are OM1 and OM2, distinguished mainly by core size, bandwidth, and typical applications. OM1 Multimode FiberOM1 fiber is the legacy multimode fiber with a 62. 5 µm core diameter and an orange jacket.

It typically uses LED light sources and was standardized in 1989. OM1 supports 100 Megabit Ethernet over longer distances and can handle 1 Gigabit Ethernet up to 275 meters and 10 Gigabit Ethernet up to 33 meters. Its larger core allows for easier light coupling but limits high-speed performance, making it suitable for older network infrastructures and short-distance applications inside buildings or campuses.

OM2 Multimode FiberOM2 fiber is an early 50 µm multimode fiber with an orange jacket and also uses LED light sources. Standardized in 1998, OM2 offers higher bandwidth than OM1 and supports 1 Gigabit Ethernet over typical distances and 10 Gigabit Ethernet up to 82 meters. Its smaller core improves modal dispersion control, making it more efficient for slightly higher-speed networks while still being cost-effective for short-range LAN connections.



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Key Differences Between OM1 and OM2Core Size: OM1 = 62. 5 µm, OM2 = 50 µmBandwidth: OM2 has higher modal bandwidth than OM1Maximum 10G Ethernet Distance: OM1 = 33 meters, OM2 = 82 metersTypical Use: OM1 for legacy 100M/1G networks, OM2 for 1G networks with moderate 10G supportLight Source: Both use LED, but OM2 is more optimized for higher-speed applications These two types form the foundation of multimode fiber networks, with OM3, OM4, and OM5 being laser-optimized successors for higher-speed and longer-distance applications.

Article Content

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

In summary, single mode fiber is better suited for long-distance, high-bandwidth, and future-oriented networks, while multimode fiber is often the better choice for short-reach and budget

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

OM4 and OM5 are both types of multimode fiber. OM4 is specified at 850nm and has an EMB of 4700 MHz/km. OM5 fiber, also known as Wide Band Multimode Fibre (WB-MMF), has an

Multi-mode optical fiber

Because multi-mode fiber has a larger core size than single-mode fiber, it supports more than one propagation mode; hence, it is limited by modal dispersion, while single mode is not.

Fiber Optic Cable Types Explained

Learn all about the differences between single mode and multimode cables, as well as the various fiber wavelengths and standard core sizes used in fiber optics.

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

With a larger fiber core and good alignment tolerances, multimode fiber and components are less expensive and often are easier to work with. In addition, fiber connector, fiber adapter, and

Multimode Fibers: A Comprehensive Guide

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Multimode fibers can be categorized into two main types: step-index and graded-index fibers. Step-Index Multimode Fibers: Step-index fibers have a sudden change in refractive index

Single Mode vs Multimode Fiber Cable

Multimode fiber cables are the type of fiber cables that transmit data via their core of larger diameters enable an average, single-mode transceiver multiple modes of light to propagate

Everything You Need to Know About Multimode Fiber Cable

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

What are the different types of network cables?

What are the different types of network cables? The main types of network cables are coax, fiber optics, and shielded and unshielded twisted pair. As enterprises deploy new technologies,

A Guide to the Materials used in Fiber Optic Cable Manufacturing

Telecommunications Cable TV Military and space applications What are the types of optic fiber? There are two main types of optical fiber: single-mode and multimode fiber. They each offer

Fiber Optic Cables How Far Is Too Far

Fiber optic cables come in two main types: single-mode and multimode. Single-mode fiber has a very thin core (about 8–9 microns in diameter) and transmits a single light signal, making

Fiber Optic Internet Cables: Benefits, Types, and the Right Plan for You

Discover the different types of fiber optic cables and the benefits of fiber optic internet. Compare fiber connections with other types of home internet.

what does fiber optic cable look like: 7 Powerful Facts 2025

Single-Mode vs Multimode: Visual Differences & Color Keys When you''re trying to identify what does fiber optic cable looks like, one of the most important distinctions is between single-mode

Fiber Optic Cable Types Explained

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

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Bend-Insensitive Fiber: Types, Benefits & Applications

Enter bend-insensitive fiber (BIF)—a revolutionary design that minimizes loss even in tight bends, transforming how fiber is deployed in high-density, space-constrained environments. This

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

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

Single Mode vs Multimode Fiber, What is The Difference?

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

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

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