

Om4 fiber optic cable meaning



AI Overview

OM4 is a high-performance multimode fiber optic cable designed for high-speed, short-range data transmission with improved bandwidth and distance capabilities compared to OM3. Overview OM4 fiber is a type of multimode fiber (MMF) standardized in 2009, primarily used in data centers, enterprise LANs, and campus networks for short-range, high-speed connections. It has a 50 μm core diameter, allowing multiple light modes to propagate simultaneously, which makes it ideal for high-bandwidth applications over relatively short distances.

Key Technical Specifications

- Modal Bandwidth:** 4700 MHz·km at 850 nm, significantly higher than OM3's 2000 MHz·km, enabling more data to be transmitted over the same distance.
- Attenuation:** Lower than OM3, with approximately 3.0 dB/km compared to OM3's 3.5 dB/km, which reduces signal loss over distance.
- Supported Ethernet Speeds and Distances:**
 - 10G Ethernet: up to 400 meters
 - 25G Ethernet: up to 100 meters
 - 40G Ethernet: up to 150 meters
 - 100G Ethernet: up to 100 meters

Advantages

- Higher bandwidth and longer reach than OM3, making it suitable for modern high-speed networks.
- Compatibility with VCSEL-based transceivers, which are cost-effective and energy-efficient for short-range applications.
- Cost-effective solution for enterprise and data center environments where single-mode fiber is unnecessary.

Comparison with Other Multimode Fibers

- OM1:** 62.5 μm core, lower bandwidth, supports 10G Ethernet up to 33 meters.
- OM2:** 50 μm core, supports 10G Ethernet up to 82 meters.
- OM3:** 50 μm core, supports 10G Ethernet up to 300 meters.
- OM5:** Similar to OM4 but optimized for short-wavelength division multiplexing (SWDM), supporting multiple wavelengths for future high-density applications.

Applications

OM4 fiber is widely used in high-speed LANs, data centers, and enterprise networks where 10G, 25G, 40G, or 100G Ethernet connections are required over short to medium distances. Its improved bandwidth and lower attenuation make it a preferred choice...

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Multimode Fiber Types: OM1 vs OM2 vs OM3 vs OM4

OM4 fiber is completely backwards compatible with OM3 fiber and shares the same distinctive aqua jacket. OM4 was developed specifically for

Differences between OS1, OS2, & OM1, OM2, OM3, OM4, and OM5

Fiber optic cables used in structured cabling and telecom networks are commonly divided into two broad groups: multimode fiber and singlemode fiber. Multimode cable categories use the

Product Type

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What Is A Fiber Optic Pigtail

Defining the Fiber Optic Pigtail: Purpose and Fundamental Role A fiber optic pigtail is a short segment of optical fiber cable (typically 0.5–3 meters,

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Managing fiber optic connections in a server rack without a proper patch panel is like trying to organize a spaghetti junction of cables behind your

Fiber Optic Cable OM3 vs. OM4: Speed, Distance, and Differences

When comparing fiber optic cable OM3 vs. OM4, the most important technical differences relate to modal bandwidth, supported Ethernet speeds, and maximum transmission distance.

The 23 Best Fiber Optic Cables of 2026

We recommends Top-Rated Fiber Optic Cables Deals You Can Buy Online for July 2026 on Amazon, As Tested by CherryPicks Editors and analyzed 511,554 customer reviews to

Fiber Optic Cable Types – Multimode and Single Mode

Fiber Optic Cable Types – Multimode and Single Mode Application Fiber Optic connectors and cables are present in nearly

1000BASE-SX vs 1000BASE-LX, EX, ZX & BX SFP Guide

Focuses on high-density MPO/MTP connectivity, outdoor harsh environment fiber solutions, and fiber optic cable assembly production technology. 1000BASE-SX, 1000BASE-LX, 1000BASE

What You Need to Know About OM4 Fiber Optic Cables

Optical multimode 4 (OM4) is a category of fiber optic cables that fall under multimode. Such standards can transmit more significant amounts of data over more extended periods than

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

OM4 is a new designation, currently used by TIA, but not yet adopted by ISO, that identifies enhanced 50 micron glass capable of 10 gigabit Ethernet out to 550 meters.

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

The following figure shows the differences between OM2, OM3, OM4, and OM5 multimode fiber optic patch cables in core diameter, bandwidth,

Low Voltage Cabling Guide: Why Cat6A & Fiber Win

3.2 Fiber optic cables (OS2, OM3/OM4/OM5) Fiber optic cabling is the preferred medium for building backbones, campus links, and high-density

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

Panduit 2 Fiber, OM4+, Key/NonKey G-Violet LC Duplex, Plenum

Panduit FS2EPKGLGNGM030 for \$108.12 - Panduit 2 Fiber, Om4+, Key/nonkey G-violet Lc Duplex, Plenum - 98.43 Ft Fiber Optic Network Cable Fo at CompSource as of Wednesday Jul 8, 2026

OS1 vs OS2, OM3 vs OM4 vs OM5 – Fiber Optic Cable Differences

Discover the key differences between OS1 and OS2 singlemode fibers, and OM3, OM4, OM5 multimode cables. Learn how to select the right fiber type for your project.

OM4 Multimode Fiber FAQ: High-Speed Connectivity Guide

OM4 (Optical Multimode 4) is a type of multimode fiber optic cable that is designed to support higher data rates and longer distances compared to previous multimode fibers like OM1,

Optical Fiber Types

Nomenclature For Optical Fibers And Cross Reference To International Standards
Singlemode Fiber Types There are several international standards designations to describe various types of

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