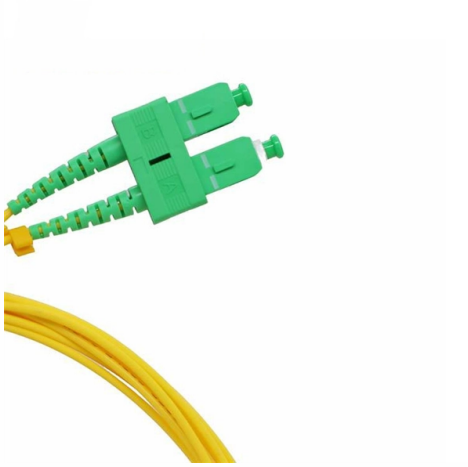
Multimode logging fiber optic cable models and specifications



Overview

Trusted by leading entities worldwide, customized Fiber Lab solutions are built to your specifications and include high-precision lengths of all fiber types and brands available in the market.

Key Takeaways

Multimode fiber optic cables (OM1–OM5) are graded-index fibers designed for short-distance, high-speed data transmission, with core diameters of 50–62. 5 µm and support for 850–1300 nm wavelengths. Core Types and DimensionsOM1: 62.

5/125 µm core/cladding, typically orange jacket, LED light source, suitable for 100 Mbps to 1 Gbps Ethernet up to 275 m, and 10G Ethernet up to 33 m. OM2: 50/125 µm core/cladding, LED source, supports 1 Gbps up to 550 m and 10G Ethernet up to 82 m. OM3: 50/125 µm, laser-optimized (LOMMF), supports 10G Ethernet up to 300 m, 40G/100G up to 100 m, designed for VCSELs at 850 nm.

OM4: 50/125 µm, laser-optimized, supports 10G Ethernet up to 550 m, 40G/100G up to 150 m, suitable for high-performance data centers. OM5: 50/125 µm, wideband multimode fiber (WB-MMF), supports 850–950 nm for short-wavelength division multiplexing (SWDM), compatible with OM4, designed for 40G/100G/400G Ethernet. Transmission Wavelengths850 nm: Primary wavelength for VCSEL and LED sources, used in most LAN and data center applications.

1300 nm: Secondary wavelength for legacy applications and longer multimode links. 850–950 nm: OM5 supports multi-wavelength SWDM systems for higher aggregate bandwidth.

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Performance Metrics

Modal Bandwidth: OM3 typically 2000 MHz·km at 850 nm, OM4 4700 MHz·km, OM5 4700 MHz·km at 850 nm and 2470 MHz·km at 953 nm. Bend Insensitivity: OM2–OM5 fibers are bend-optimized to reduce macro-bending losses, improving installation flexibility. Standards Compliance: ISO/IEC 11801, TIA/EIA-492AAAB/AAAC/AAAD, IEC 60793-2-10, ITU-T G.

651. 1, Telcordia GR-20-CORE and GR-409-CORE. Typical ApplicationsOM1/OM2: Legacy LANs, 100 Mbps–1 Gbps Ethernet, short-distance interconnects.

OM3/OM4: Modern data centers, 10G–100G Ethernet, high-speed server interconnects, cloud computing, virtualization. OM5: Future-proof data centers, SWDM systems, 40G–400G Ethernet, multi-wavelength high-bandwidth applications.

Summary Table

Fiber TypeCore/Cladding (µm)Max 10GBASE-SR DistanceMax 40G/100G DistanceWavelength (nm)Jacket ColorNotesOM162. 5/12533 mN/A850/1300OrangeLED sourceOM250/12582 m100 m850/1300OrangeBend-insensitiveOM350/125300 m100 m850AquaLaser-optimizedOM450/125550 m150 m850AquaLaser-optimizedOM550/125550 m150 m850–950Lime GreenWideband, SWDM compatibleThese specifications ensure that multimode fiber optic cables are optimized for short-range, high-speed data transmission, with backward compatibility for older systems while supporting modern high-bandwidth applications in enterprise and data center environments.

Article Content

2024 Optical Fiber Reference Guide

Trusted by leading entities worldwide, customized Fiber Lab solutions are built to your specifications and include high-precision lengths of all fiber types and brands available in the market.

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 Cable Types: OM1/OM2/OM3/OM4/OM5 Compared

This comprehensive guide explores Multimode Fiber Cable Types, covering technical specifications, deployment scenarios, and best practices to help you optimize your fiber infrastructure

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

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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

Fibre Specification | Technicals | Belcom Cables

The fibres are designed for use at 850, 953 and 1300 nm. These fibres are suitable for use in premises wiring applications, like Local Area Networks (LAN) with video, data and voice using LED, VCSEL or

OM2 Opti OM3 OM4 Multimode TR2 042214

Panduit OM2 and laser-optimized OM3, OM4 and Signature CoreTM multimode fibers exceed domestic and international standards for optical fiber, including TIA-492AAAB, TIA-492AAAC, TIA-492AAAD

Multimode Fiber Optic Cable Types: OM1 vs OM2 vs

Multimode fiber optic cable types OM1, OM2, OM3, OM4 and OM5 compared for core size, bandwidth, speed, distance & applications in modern

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Corning Incorporated is a global-leading innovator in materials science, with 170 years of life-changing inventions and category-defining products.

Fiber Optic Cable Types – Multimode and Single Mode

Multimode fibers are identified by the OM (optical mode) designation and their specifications are outlined by the ISO/IEC 11801 standard. Multimode cable disperses the light into multiple paths as it travels

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

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 every communications

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.

Fiber Optic Cable Types: Single-Mode, Multimode, and Beyond – A ...

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Discover fiber optic cable types, including single-mode (OS1, OS2) and multimode (OM1, OM2, OM3, OM4, OM5), indoor/outdoor variants, and how to select the best option for data centers,

Types of Fiber Optic Cables: Complete Classification

In today''s digital era, a reliable fiber optic cable network forms the backbone of communication. From data centers to enterprises and even smart

Fiber Optic Cable Types Explained: Choosing the Right Fiber Cable

These cables can be classified based on key parameters including fiber mode, fiber count, cable jacket rating, connector type, and end-face polish. Understanding these specifications is

Fiber optic cable types and selection guide

When installing optical fiber lines or changing equipment connections, there are more and more situations where you have to choose your own "optical

Fibre Optic Cable

View Eland Cables'' range of singlemode and multimode fibre optic cables - loose tube and tight buffered. Technical support, fast quote, international logistics and fast delivery.

Fiber Optic Cable Types | Omnitron Systems Guide

Conclusion Understanding fiber optic cable types, fiber core sizes, and proper installation methods is essential for building high-speed, reliable fiber networks.

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