

What is a gigabit multimode fiber optic cable



AI Overview

A gigabit multimode fiber optic cable is a type of optical fiber designed to transmit data at speeds of 1 Gbit/s over short to medium distances using multiple light modes. Overview Gigabit multimode fiber optic cable (MMF) is an optical communication medium primarily used for short-range networking, such as within buildings, campuses, or data centers. Unlike single-mode fiber, which carries a single light mode, multimode fiber has a larger core diameter—typically 50 μm or 62.5 μm —allowing multiple light modes to propagate simultaneously. This design enables high data throughput at lower cost, making it ideal for 1 Gbit/s Ethernet (Gigabit Ethernet) and other high-speed LAN applications. Core Types and Standards Multimode fibers are classified into several types based on core size, bandwidth, and laser optimization: OM1: 62.5 μm core, supports 1 Gbit/s up to ~275 meters; uses LED light sources. OM2: 50 μm core, supports 1 Gbit/s up to ~550 meters; also LED-based. OM3: 50 μm laser-optimized, supports 1 Gbit/s and 10 Gbit/s up to 300 meters; designed for VCSEL lasers. OM4: Enhanced 50 μm laser-optimized fiber, supports longer distances for 10 Gbit/s and higher speeds. OM5: Wideband multimode fiber supporting short-wavelength division multiplexing (SWDM), suitable for multi-wavelength high-speed applications, though standard 1 Gbit/s links do not require its advanced features. Performance and Applications Gigabit multimode fiber is commonly used in: Enterprise LANs: Connecting switches, servers, and workstations within buildings. Data Centers: Horizontal cabling and short-reach interconnects. Campus Networks: Linking multiple buildings over distances typically under 550 meters for 1 Gbit/s speeds. The maximum transmission distance depends on the fiber type and light source. For example, OM2 can reach up to 550 meters at...

Article Content

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1M (3ft), OM3 LC-LC Fiber Optic Patch Cable Multimode 10Gb is designed for high density applications in gigabit ethernet, fiber channel, local area networks, data center, premise

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

SeaMAX Fiber Optic Patch Cord, 5m, LC/LC UPC, OM3 Multimode,

The SeaMAX Fiber Optic Patch Cord is a high-performance duplex multimode fiber optic cable designed for reliable optical connectivity in data centers, enterprise networks, telecommunications, and storage

Used 1M-30M FC-FC Duplex Multimode OM3 10 Gigabit Fiber Optic Cable ...

1M-30M FC-FC Duplex Multimode OM3 10 Gigabit Fiber Optic Cable Patch Cord Type: OM3 10Gbps Multimode Fiber Patch Cord Material: LSZH (Low Smoke Zero Halogen) Storage Temp: -10°C ~

Tripp Lite N320-02M Duplex Multimode Fiber Patch Cable

The Tripp Lite N320-02M Duplex Multimode Fiber Patch Cable is used in fiber optic network communication systems for connecting networking equipment, switches, and fiber-enabled devices.

Everything You Need to Know About Multimode Fiber

What is Multimode Fiber Cable? Multimode fiber (MMF) is an optical fiber designed to carry multiple light propagation paths—or

Camplex 4-Channel LC Multimode OM1 Fiber Optic Tactical Reel

Extremely Rugged & Lightweight OM1 Orange 62.5 Micron Multimode Tactical Fiber Snakes Designed for Broadcast & Pro-Audio Applications! Ruggedized multi-channel fiber optic cables designed for

What Is Optical Fiber Technology, and How Does It Work?

There are many types of fiber optic cables, often that end up in fiber optic cable assemblies to execute their function. Single and Multimode Fiber Fiber optic

How to Install Fiber Optic Cable: A Comprehensive Guide

Learn how to install fiber optic cable with Network Drops" easy step-by-step guide. Follow the process for quick and effective results.

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

These special fiber optic patch cords are duplex multimode patch cables with a small length of single-mode fiber at the start of the transmission

Single Mode vs. Multimode Fiber Optic Cables

Multimode fiber optic cables are engineered with a larger core diameter—typically 50 or 62.5 microns—compared to single mode fibers, and they are terminated with various fiber optic

Exploring Multimode Fiber Distance Limits in Data Centers

This article discusses multimode fiber distance limits, the types of multimode fiber and their respective distance capabilities, and solutions to

Multimode Fiber Types: OM1 vs OM2 vs OM3 vs OM4

Multimode fiber is a common choice to achieve 10 Gbit/s speed over distances required by LAN enterprise and data center applications. There are

SeaMAX Fiber Optic Patch Cord, 5m, LC/LC UPC, OM4 Multimode,

The SeaMAX Fiber Optic Patch Cord is a premium duplex multimode fiber optic cable designed for high-speed optical networking in data centers, enterprise networks, storage area networks (SAN), and

SeaMAX MM-PC-SC/SC-5-D-OM3 Fiber Optic Patch Cord, 5m,

The SeaMAX Fiber Optic Patch Cord is a high-quality duplex multimode fiber optic cable designed for high-speed optical networking in data centers, enterprise networks, telecommunications, and fiber

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.

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

Multimode fiber is a kind of optical fiber mostly used in communication over shorter distances, for example inside a building or for the

Fiber Optic vs. Copper Cables: What's the Difference?

Both fiber optic and copper network cables are common in the enterprise, but what is the difference between a fiber optic vs. copper cable?

SeaMAX C-SC UPC, MM OM3, Fiber Optic Patch Cord, 3m, Multimode

The SeaMAX Fiber Optic Patch Cord is a high-quality duplex multimode fiber optic cable designed for reliable optical connectivity in data centers, enterprise networks, telecommunications systems, and

OFNP OM4 Tight Buffer Fiber Cable | Corning Glass | Indoor & Outdoor

OM4 Multimode 50/125 Indoor/Outdoor Plenum OFNP Distribution Fiber Optic Cable with Corning Glass This OM4 plenum distribution fiber cable is composed of 2-24 colored tight buffers, aramid yarn, and

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

Top US Fiber Optic Cable Manufacturers & Best Global Alternatives (2026)

Looking for top fiber optic companies in the USA? We review leaders like Corning & AFL, and compare them with global

Fiber Optic Cable Range: Comprehensive Guide

Fiber optic cable range varies depending on whether you're using single or multimode fiber. Learn the potential for both cable types.

TAA Compliant Fiber Patch Cable LC-LC MM 50/125

TAA Compliant Fiber Patch Cable, LC-LC, UPC, Multimode 50/125 Micron OM4, Duplex, 1.8mm OFNR Rated and available today at Cables Plus USA.

10 Best Fiber Optic Media Converters (May 2026)

Discover the best fiber optic media converters in 2026. Our experts tested 10 top models for reliability, performance, and value. Complete buying

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

What are the different types of network cables?

Compare the different types of network cabling: coaxial, fiber optic, shielded twisted pair and unshielded twisted pair.

OM1 vs OM2 vs OM3 vs OM4 vs OM5 Multimode Fiber

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

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