

What types of fiber optic cables are used for 10 Gigabit fiber optic cables



Summary of Content

10 Gigabit Ethernet uses both single-mode (OS1/OS2) and multimode (OM1, OM2, OM3, OM4, OM5) fiber optic cables depending on distance and application.

Single-Mode Fiber (SMF)

Single-mode fiber has a very small core, typically 8–10 microns, allowing light to travel a single path. It is ideal for long-distance communication, often exceeding 10 km, and is used in standards like 10GBASE-LR and 10GBASE-ER. OS1 and OS2 are the main single-mode types:

- OS1: Indoor, tight-buffered, suitable for shorter distances.
- OS2: Outdoor, loose-tube construction, supports distances up to 40 km or more at 10 Gbps, and can handle multiple wavelengths for advanced technologies like WDM .

Multimode Fiber (MMF)

Multimode fiber has a larger core, typically 50 or 62.5 microns, allowing multiple light paths. It is used for shorter distances, such as within buildings or data centers, and is compatible with VCSEL lasers for cost-effective 10GbE deployment . The main multimode types are:

- OM1: 62.5 μm core, supports 10GbE up to ~33 meters, typically orange jacket, LED light source .
- OM2: 50 μm core, supports 10GbE up to ~82 meters, orange jacket, LED light source .

Article Content

Fiber Connector Types: A Complete Guide (2024)

SC Connector The SC (Standard Connector, Subscriber Connector) is a fiber optic connector released by NTT in the

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

Discover fiber optic cable types, including single-mode (OS1, OS2) and multimode (OM1, OM2, OM3, OM4, OM5),

Optical Fiber Explained and Demystified

OM2: The core of the fiber cable was shrunk to 50 microns as opposed to the 62.5 microns used in FDDI/OM1 type cables. This

Fiber Optic Cable Types: A Complete Guide

Here's everything you need to know about the various fiber optic cable types, what makes

The Ultimate Guide to Fiber Optic Cables – Types, Standards, and ...

Discover how to choose the right fiber optic cables for your network. Learn about fiber types, cable constructions,

Fiber Optic Cable Types – Multimode and Single Mode

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

Fiber Optic Cable Buying Guide

Understand how to choose fiber optic cable by comparing single-mode vs. multimode, network speed and distance needs, cable

Network Cable Types and Specifications

This tutorial explains the types of network cables used in computer networks in detail. Learn the specifications,

Fiber Optic Cable Types: Comprehensive Guide

Explore the different types of fiber optic cables and understand which type suits your specific needs for speed, distance,

Understanding Fiber Optic Cables and Connectors

Read Whitepaper: Discover the fiber optic cable and connector types, specifications, benefits, typical

10 Gigabit Ethernet Fiber Design Considerations

This paper has introduced some basic fiber related concepts and outlined some of the key points to understand and consider when

Fiber Optic Cable Types | Omnitron Systems Guide

Explore fiber optic cable types, features, and applications. Omnitron Systems explains single-mode, multi-mode, and specialty fiber

Fiber Optic Cables Selection Guide: Types, Features, Applications ...

Once the fiber optic cables are installed, it is important to clean and maintain the cables. There are two types of fiber optic connector

A Complete Guide to Fibre Optic Cables | RS

What is Optical Fibre? Fibre optic technology is an effective cabled-based communication

Fiber Optic Cable Types – Multimode and Single Mode

Fiber Optic Cable Types – Multimode and Single Mode Application Fiber Optic connectors

10 Gigabit Ethernet Cables: Ultimate Guide to 10GbE

Upgrade your network with 10 Gigabit Ethernet cables. This ultimate guide covers Cat6a,

An Introductory Guide to Understanding Fibre Optic Cables

Comparison of fibre optic cable types, connectors, and factors to consider when using fibre optic cabling in local area

10 Gigabit Ethernet | 10GE Types and Cable Compatibility

Know more about the several types of 10 Gigabit Ethernet and its compatibility with fiber cables.

Types of Fiber Optic Cables: A Comprehensive Guide | Network Drops

Learn about single-mode and multi-mode fiber optic cables, their components, uses, and how to choose the right type

Understanding Fiber Optic Cables: A Guide to Types

Understanding fiber optic cables and their types is akin to comprehending the backbone of our modern communication

Fiber Optic Basics

Fiber Optic Basics Optical fibers are circular dielectric wave-guides that can transport optical energy and information. They have a

10 Gigabit Ethernet

There are two basic types of optical fiber used for 10 Gigabit Ethernet: single-mode (SMF) and multi-mode

How to choose an Ethernet cable

Buying the right Ethernet cable can be a real pain. Our guide clarifies all of the terminologies

10 Types of Fiber Optic Cable Explained: Selection Guide (2026)

Explore the top 10 fiber optic cable types for 400G/800G networks. From ADSS to MPO, learn technical specs, applications, and how

Optical Fiber Types

New installations should use OM3, OM4 or OM5 multimode fiber types. OM3 multimode, introduced in 2003, was the first fiber

Contact Us

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