

What is gigabit fiber optic cable



AI Overview

A gigabit fiber optic cable supports data transmission at 1 Gbps, following standards like 1000BASE-SX or 1000BASE-LX for short- and long-distance fiber connections.

What "Gigabit" Means

A gigabit fiber optic cable is designed to transmit data at 1 gigabit per second (1 Gbps or 1000 Mbps), which is significantly faster than Fast Ethernet (100 Mbps) and suitable for high-speed network backbones and enterprise networks. This speed is defined under the IEEE 802.3z standard, also known as 1000BASE-X, which specifies Gigabit Ethernet over fiber optics.

Fiber Standards

Gigabit Ethernet over fiber includes several standards:

- 1000BASE-SX: Short-reach standard for multimode fiber, operating at 850 nm wavelength. It supports distances from 220 meters up to 550 meters on standard multimode fibers, and up to 1 km on laser-optimized OM3/OM4/OM5 fibers.
- 1000BASE-LX: Long-reach standard for single-mode fiber, operating at 1310 nm wavelength. It typically supports distances up to 10 km, and in some cases up to 20 km with extended configurations.
- 1000BASE-ZX: Extended long-reach standard, often used for distances beyond 70 km, primarily in carrier networks.
- 1000BASE-BX: Single-fiber bidirectional standard, allowing transmission and reception over a single fiber strand.

Advantages of Fiber Optic Gigabit Cables

Article Content

Fiber Optic Cable Buying Guide

Fiber Optic Cable Buying Guide Understand how to choose fiber optic cable by comparing single-mode vs.

How Fiber Optic Cables Deliver Gigabit Speeds Over Long Distances

Discover how fiber optic cables use pulses of light to deliver gigabit internet over vast distances with unmatched speed, reliability,

Fiber Optic Cable Types Explained: Choosing the Right Fiber Cable

Explore different types of fiber optic cables, from single mode to armored and LC uniboot options. Learn how to

Fiber vs. cable: What is the difference? | ZDNET

We break down the differences between fiber and cable, while highlighting their unique respective advantages.

What is Fiber Optics

A fiber-optic cable contains anywhere from a few to hundreds of optical fibers within a plastic casing. Also known as optic cables or

What is gigabit fiber Internet? | Spectrum Business

Gigabit fiber Internet refers to Internet access over fiber-optic cables at gigabit speeds for uploads and downloads. In contrast to

What Is Fiber Internet (And How Is It Different)?

Fiber trunk cables form most of the backbone of the modern internet, and you'll see the benefits of them even if you

What is Gigabit Ethernet (GbE)?

Gigabit Ethernet speeds are delivered by either copper or fiber optic cables. Fiber optic cables are needed for long

Fiber Optics and Types

Fiber optic cables are used for long-distance and high-performance data networking. They are capable of transmitting

Fiber Optic Cable Speed: The Most Comprehensive Guide

Whether powering a 5G network across a city or delivering gigabit internet to a rural household, fiber optic cable

Gigabit Ethernet

There are five physical layer standards for Gigabit Ethernet using optical fiber (1000BASE-X), twisted pair cable (1000BASE-T), or

What Is a Fiber Optic Cable and How Does It Work?

Where traditional copper cables max out at about 10 gigabits per second, fiber optic cables can handle 100 gigabits

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,

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

Fibre optic cable selection guide

This fibre optic cable selection guide explains the differences between the different types and the commonly available construction

Gigabit Internet: Glo Fiber's Guide to High-Speed Connection

Fiber gigabit Internet can provide both high download and upload speeds of up to 1 Gbps and higher. It offers greater

A Complete Guide to Fibre Optic Cables | RS

Far less electricity is also used by fibre optic LED lighting compared to standard bulb options, which makes it both

Contact Us

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