

Multimode Optical Cable Model Identification Rules



AI Overview

Multimode optical cables are identified by the OM designation (OM1-OM5), which indicates core size, modal bandwidth, jacket color, and supported data rates according to ISO/IEC 11801 standards.

Core Identification Rules

OM1
Core size: 62.5 μm
Jacket color: Orange
Light source: LED
Bandwidth: Lower modal bandwidth, suitable for 100 MbE and 1 GbE
Max 10 GbE distance: ~33 meters
Use case: Legacy networks, short-distance applications

OM2
Core size: 50 μm
Jacket color: Orange
Light source: LED
Bandwidth: Moderate, supports 1 GbE and limited 10 GbE
Max 10 GbE distance: ~82 meters
Use case: Legacy 1 GbE networks, backward compatibility with OM1

OM3
Core size: 50 μm
Jacket color: Aqua
Light source: Laser-optimized VCSEL
Bandwidth: High, supports 10 GbE up to 300 m
Use case: Modern LAN and data center installations, supports emerging 40/100 GbE up to 100 m

OM4
Core size: 50 μm
Jacket color: Aqua
Light source: Laser-optimized VCSEL
Bandwidth: Very high, supports 10 GbE up to 550 m, 40/100 GbE up to 150 m
Use case: High-performance computing, cloud data centers, future-proofing beyond OM3 distances

OM5
Core size: 50 μm
Jacket color: Lime green
Light source: Laser-optimized, supports short-wavelength division multiplexing (SWDM)
Bandwidth: 4700 MHz·km at 850 nm, 2470 MHz·km at 953 nm
Use case: Supports multi-wavelength 40/100/400G SWDM transceivers, optimized for next-generation high-speed networks

Additional Identification Considerations
ISO/IEC 11801 Standard: OM designations are standardized internationally to indicate performance levels for multimode fibers. OM1-OM5 differ in core size, modal bandwidth, and maximum supported distances.

Jacket Color Coding: Provides a quick visual identification of fiber type (e.g., orange for OM1/OM2, aqua for OM3/OM4, lime green for OM5).

Light Source Compatibility:...

Article Content

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

A complete guide to multimode fiber types: from OM1 to OM5, covering modal dispersion, bandwidth limits, cabling design, and future trends.

Fiber Optic Cable Types * | Single Mode | Multimode

Latest Fiber Optic Cable Technologies Network Cabling is an important part of computer networking. In this lesson, we will focus on one of the important

Fiber Optic Cable Types: Single Mode vs Multimode

Although single mode fiber (SMF) and multimode fiber (MMF) optic cable types are widely used in diverse applications, the differences between

Fiber Optic Cable Types: Single Mode vs. Multi-mode

The primary distinction between single mode and multi-mode fiber optic cable is the fiber core diameter, wavelength & light source, bandwidth, color

Single Mode vs. Multimode Fiber What's the Difference?

What's the difference between single mode and multimode fiber? More importantly, which cable should I use in my installation? These are two of the most common

Multimode Fiber: OM1 to OM5 - MapYourTech

Multimode optical fiber represents one of the most critical infrastructure components in modern data centers, enterprise networks, 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

Understanding Fiber Optic Cable: Single Mode vs.

What's the difference between single mode and multimode fiber? More importantly, which cable should I use in my installation? These are two of

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

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

Given this inherent limitation, multimode fiber optic cable is usually deployed at distances of 1,312 feet or less to handle 10 Gbps traffic (assuming

Fiber Color Code Guide: TIA-598 Standard Explained

Understand the TIA-598 fiber color code system for jackets, fibers, and connectors. Learn color meanings for single-mode and multimode optical cables.

Singlemode vs Multimode Fiber Optic Cable

We breakdown the differences between single mode and multimode fiber optic cable, covering aspects like physical structure, bandwidth over

Handbook Optical fibres, cables and systems

Multimode optical fibres are dielectric waveguides which can have many propagation modes. Light in these modes follows paths that can be represented by rays as shown in Figure 1-1a and 1-1b, where

Multimode Fiber Types: OM1 vs OM2 vs OM3 vs OM4

Identified by ISO 11801 standard, multimode fiber optic cables can be classified into OM1 fiber, OM2 fiber, OM3 fiber, OM4 fiber and newly released

How to Tell if My SFP is Single-Mode or Multimode?

Single-mode SFP vs multimode SFP is color-coded with different Bale Clasp. Though the color-coding rule is not total conformity for different

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

How to tell the difference between single mode and multimode fiber ...

Multimode: Suitable for shorter distances, typically up to a few hundred meters, depending on the specific type (e.g., OM1, OM2, OM3, OM4). When in doubt, checking the cable specifications,

Single Mode and Multimode Fiber: What's the

Learn more about Single Mode and Multimode Optical Fibers - their design, key differences, and intended fiber optic systems applications.

ANSI/TIA-568.3-E: Optical Fiber Cabling and Components Standard

Scope: This Standard specifies performance, transmission, and test and measurement requirements for premises optical fiber cable, connectors, connecting hardware, and patch cords.

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

OM1-OM5 multimode fiber standards, detailing their core sizes, jacket colors, transmission capabilities and more.

Fiber Type: Identifying Installed Fiber Optic Cables

OFCP: Optical Fiber Conductive Plenum LSZH: Low Smoke Zero Halogen OSP: Outside Plant Conductivity (Nonconductive vs Conductive): Fiber optic cables,

Color Arrangement Rules For Optical Fiber

The color arrangement for optical fiber cables is standardized to ensure consistent identification of individual fibers during installation, splicing,

Enhancing Multimode Fibre Optic Communication through Deep

Abstract Multimode fibre optic communication systems, employing mode/mode group multiplexing, present challenges in accurately identifying numerous modes and mode groups for improved

Single Mode vs. Multimode Fiber: Core Differences and

How do you choose between single mode and multimode fiber? Compare their differences in core size, light source, bandwidth, transmission

OM2 Opti OM3 OM4 Multimode TR2 042214

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

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.sphplantsales.co.za>

Email: info@sphplantsales.co.za

Phone: +27 64 827 3915

Address: Unit 9, Highveld Technopark, 43 Atlas Road, Johannesburg, 2196, South Africa

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