

How to set up multimode fiber optic settings



Article Overview

Multimode fiber (MMF) settings depend on fiber type (OM1-OM5), core size, wavelength, and light source, with each type supporting specific data rates and distances.

Core Characteristics and Light Sources

Multimode fibers have larger core diameters (50–62.5 μm) than single-mode fibers, allowing multiple light modes to propagate simultaneously, which simplifies alignment and installation. MMF typically operates at 850 nm and 1300 nm wavelengths and uses LEDs or VCSELs as light sources. LEDs are suitable for lower-speed applications, while VCSELs support high-speed networks up to 100 Gbps and beyond.

Multimode Fiber Types and Settings

- OM1 (62.5 μm core, orange jacket): Legacy fiber, LED-based, supports 1G Ethernet up to ~275 m; not ideal for modern 10G+ networks.
- OM2 (50 μm core, orange jacket): Early 50 μm fiber, supports 1G and limited 10G Ethernet, compatible with modern 50 μm systems.
- OM3 (50 μm core, aqua jacket): Laser-optimized for VCSELs, supports 10G/25G Ethernet up to 300–400 m, 40G/100G moderate distances.
- OM4 (50 μm core, aqua jacket): Enhanced laser-optimized, higher modal bandwidth, supports longer distances at high speeds, mainstream for new deployment...

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