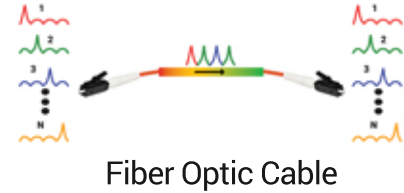


Standard Fiber Wavelengths

- Multimode Fiber: 850nm and 1300nm
- Single Mode Fiber: 1310nm and 1550nm

Note: Wavelength is measured in nanometers



Fiber Optic Cable Types

Typically customers will ask for either multimode or single mode fiber cable. They may be able to give you some specifics but not always. They may rely on you to decide the exact type of fiber they need. Every now and then you may have a more technical customer that asks for Fiber cable but gives you a specific type like OM3 fiber. Well what does that mean? What is OM3 or OM4 Fiber?

This section will review the more technical naming conventions and specifications for both Multimode and Single Mode Fiber.

Multimode Fibers – OM1, OM2, OM3, OM4 and OM5

Multimode fibers are identified by the OM (optical mode) designation and their specifications are outlined by the ISO/IEC 11801 standard. Multimode cable disperses the light into multiple paths as it travels down the core. This allows for higher bandwidth over short to medium distances. However, on longer cable runs, multiple paths of light can cause distortion at the receiving end, resulting in an unclear and incomplete data transmission. For this reason, Multimode is generally only used for short distance applications like data centers.

Types of Multimode Fiber Cable and Specifications

OM1

- Jacket Color – Orange
- Core Size – 62.5um
- Data Rate – 1Gb @ 850nm wavelength
- Distance – Up to 300 meters
- **Application** – Short-haul networks, Local Area Networks(LANs) & private networks



OM2

- Jacket Color – Orange
- Core Size – 50um
- Data Rate – 1Gb @ 850nm wavelength
- Distance – Up to 600 meters
- **Application** – Short-haul networks, Local Area Networks(LANs) & private networks
- Generally used for shorter distances. Has twice the distance capacity has OM1



OM3 – Laser-Optimized Multimode

- Jacket Color – Aqua
- Core Size – 50um
- Data Rate – 10Gb @ 850nm wavelength
- Distance – Up to 300 meters
- Uses fewer modes of light, enabling increased speeds
- Able to run 40GB or 100GB up to 100 meters utilizing an MPO connector
- **Application** – Larger Private Networks



OM4 – Laser Optimized Multimode

- Jacket Color – Aqua
- Core Size – 50um
- Data Rate – 10G @ 850nm wavelength
- Distance – Up to 550 meters
- Able to run 100GB up to 150 meters utilizing an MPO connector
- **Application** – High-Speed Networks, Data Centers, Financial Centers and Corporate Campuses



OM5 – The latest and greatest in Multimode Fiber

- Jacket Color – Lime Green
- Fully compatible and can mate with OM3 and OM4 cabling
- Utilizes a wider range of wavelengths between 850nm and 953nm
- Designed to support Short Wavelength Division Multiplexing (SWDM)
- Can Transmit 40 Gb/s and 100 Gb/s
- **Application** – High-speed Networks and Data Centers that require greater link distances and higher speeds.



Multimode Fiber Summary

Multimode fiber has come a long way in 30 years. It has evolved with the growing demand for more speed. Since OM1 and OM2 fiber could not support the higher speeds, OM3 and OM4 became the main choice for multimode fiber to support 25G, 40G and 100G Ethernet. With even greater demands on the horizon, OM5 was developed to extend the benefits of multimode fiber in data centers.