



# High-Performance OM4 Multimode Optical Fiber Spool – 50/125 $\mu$ m, 4700 MHz·km Bandwidth

## Product Overview

Winner OM4 multimode optical fiber is a premium-grade, laser-optimized 50/125  $\mu$ m graded-index fiber designed to exceed the performance requirements of modern high-speed optical networks. Compliant with ISO/IEC 11801-1:2017, TIA-492AAAE, and IEC 60793-2-10 standards, it provides an Effective Modal Bandwidth (EMB) equivalent of  $\geq 4700$  MHz · km at 850 nm—enabling reliable support for 10 Gigabit Ethernet up to 550 meters, 40G/100G Ethernet up to 150 meters, and emerging 400GBASE-SR8 applications up to 100 meters using parallel optics.

With ultra-low attenuation of  $\leq 2.4$  dB/km at 850 nm and  $\leq 0.6$  dB/km at 1300 nm, Winner OM4 ensures minimal signal degradation across extended link lengths. Its precision-engineered refractive index profile minimizes differential mode delay (DMD), ensuring optimal coupling with 850 nm VCSEL sources used in SFP+, QSFP28, and OSFP transceivers. The fiber maintains stable mechanical and optical performance across a wide operating temperature range of -65°C to +85°C, making it suitable for both indoor data center deployments and ruggedized outdoor cabling when jacketed appropriately.

## Technical Specifications

|            |        |
|------------|--------|
| Brand Name | Winner |
|------------|--------|



|                             |  |
|-----------------------------|--|
| Model Number                | OM4  |
| Fiber Type                  | Multimode  |
| Core/Cladding Diameter      | 50/125 $\mu\text{m}$   |
| Wavelength                  | 850 nm / 1300 nm   |
| Overfilled Modal Bandwidth  | $\geq 4700 \text{ MHz} \cdot \text{km}$ @850 nm, $\geq 500 \text{ MHz} \cdot \text{km}$ @1300 nm |
| Attenuation                 | $\leq 2.4 \text{ dB/km}$ @850 nm, $\leq 0.6 \text{ dB/km}$ @1300 nm                              |
| Operating Temperature Range | -65°C to +85°C   |

## Applications

- High-density hyperscale and enterprise data centers supporting 40G, 100G, and 400G Ethernet interconnects
- Storage area networks (SAN) and high-performance computing (HPC) clusters requiring low-latency, high-bandwidth links
- Enterprise backbone and horizontal cabling in financial, healthcare, and government facilities
- Campus network infrastructure connecting multiple buildings with future-proof multimode capacity



- Harsh-environment deployments using armored or outdoor-rated OM4 cable constructions for physical and environmental protection

## **Standards & Compatibility**

Winner OM4 fiber is fully compatible with LC, SC, and MPO/MTP connector systems and supports all major IEEE 802.3 multimode applications including 10GBASE-SR, 40GBASE-SR4, 100GBASE-SR4, and 400GBASE-SR8. It meets the stringent requirements of ANSI/TIA-568.3-D, EN 50173-1, and ISO/IEC 24702, ensuring seamless integration into current and next-generation optical infrastructure.