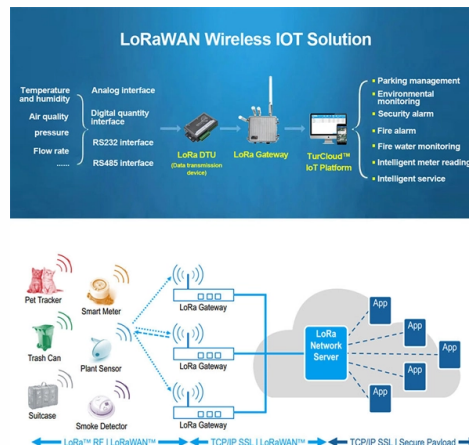


How to choose the right fiber optic cable model



AI Overview

Selecting the right fiber optic cable depends on your application, transmission distance, installation environment, and performance requirements.

- Determine the Fiber Type**
Fiber optic cables are primarily single-mode (SMF) or multimode (MMF).
Single-mode Fiber (SMF): Ideal for long-distance and high-bandwidth applications, such as telecommunications or backbone networks. It has a small core (typically 9 μm) and low attenuation, allowing signals to travel tens of kilometers without significant loss.
Multimode Fiber (MMF): Suitable for short-distance, high-speed data transmission within buildings or data centers. It has a larger core (50–62.5 μm) and supports multiple light modes, making it cost-effective for distances up to several hundred meters.
- Choose the Cable Construction**
The cable structure affects installation ease, flexibility, and protection:
Breakout: Individual 2 mm strands, ideal for direct connections.
Distribution: Strands grouped in a 900 μm jacket, suitable for splicing or connectorization.
Loose Tube: Strands in a 250 μm tube, offering flexibility and protection for outdoor or long-distance installations.
Micro-module: Designed for mass splicing and large-scale deployments, simplifying installation.
- Consider Fiber Count**
Select the number of fibers based on network capacity. Options range from 1 to 288 fibers, depending on whether the network requires minimal connections or high-density backbone support.
- Evaluate Sheath and Environmental Requirements**
The installation environment determines the cable sheath:
Outdoor: Black HDPE sheath for UV and weather resistance.
Indoor: LSZH (Low Smoke Zero Halogen) sheath for fire safety and environmental compliance.
Indoor/Outdoor: Black LSZH sheath for combined protection.
- Assess Protection and Durability**
Protection options ensure longevity and resistance to mechanical stress.

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