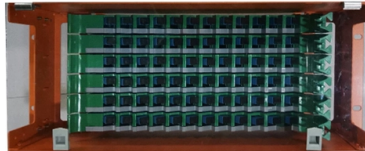


Korea extends optical fiber cable OM3



Overview

Korea Lags in Optical Fiber, a Key Material for the AI Era Trend in Optical Fiber Exports by Major Countries. Photo courtesy of Korea Institute for Industri.

Key Takeaways

Korea is expanding its network infrastructure using OM3 multimode fiber, ideal for high-speed, short- to medium-range data transmission in data centers and enterprise networks. What is OM3 Fiber?

OM3 is a laser-optimized multimode fiber (LO-MMF) with a 50 μm core diameter, designed to work with VCSEL (vertical-cavity surface-emitting lasers) for high-speed data transmission . It supports 10 Gbps Ethernet up to 300 meters, and shorter runs of 40 Gbps and 100 Gbps up to 100 meters, making it suitable for modern data centers, corporate campuses, and local area networks . The fiber typically has an aqua-colored jacket for easy identification .

Advantages of OM3 Fiber

- High-speed performance: Supports 10G, 25G, 40G, and 100G Ethernet over short distances .
- Cost-effective: Cheaper than single-mode fiber for short-range applications, with lower-cost lasers and connectors .
- Ease of installation: Larger core diameter allows easier alignment and lower sensitivity to connector imperfections .



- Backwards compatibility: Works with existing OM2 and OM4 infrastructure, allowing gradual network upgrades .

Comparison with Other Multimode Fibers

- OM1/OM2: Older fibers with larger cores (OM1: 62.5 μm , OM2: 50 μm) and LED light sources; limited to shorter distances and lower speeds .
- OM4: Enhanced version of OM3 with higher modal bandwidth (4700 $\text{MHz}\cdot\text{km}$) and longer reach for 40G/100G links, preferred for high-performance data centers .
- OM5: Wideband multimode fiber supporting short-wavelength division multiplexing (SWDM) for multiple wavelengths, ideal for future 400G applications, though adoption is still limited .

Applications in Korea

Korea's extension of OM3 fiber likely targets enterprise networks, data centers, and campus backbones, where short- to medium-range high-speed connectivity is critical. OM3 provides a balance of speed, reliability, and cost, making it the preferred choice for most modern deployments up to 300 meters, covering the majority of intra-building and campus links .

Summary

By deploying OM3 fiber, Korea enhances its high-speed network infrastructure efficiently, supporting 10G to 100G Ethernet for data centers and enterprise networks. OM3's combination of performance, cost-effectiveness, and ease of installation makes it a practical choice for expanding optical fiber networks in urban and campus environments .

Article Content

Korea Lags in Optical Fiber, a Key Material for the AI Era

Trend in Optical Fiber Exports by Major Countries. Photo courtesy of Korea Institute for Industrial Economics and Trade

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