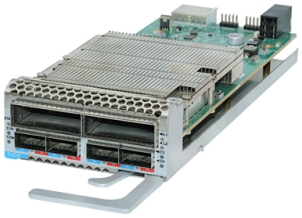
Underground fiber optic cable in the factory



Overview

Choosing an underground fiber optic cable can be confusing. This guide covers cable structures, burial methods, applications, and key selection factors to help you make the right decision.

Key Takeaways

Underground fiber optic cables in factories provide durable, high-speed data transmission, typically installed in conduits or directly buried with protective measures to ensure reliability and safety.

Types of Underground Fiber Optic Cables

For industrial environments like factories, armored fiber optic cables are commonly recommended due to their superior mechanical strength and resistance to rodent damage or soil compression. These cables include multiple layers such as water-blocking components, tensile strength members, and protective jackets to withstand harsh conditions. Depending on the factory layout and environmental risks, cables can be either single-mode for long-distance high-speed communication or multi-mode for shorter intra-factory networks.

Installation Methods

There are two primary installation methods: Conduit Installation: Cables are pulled through PVC or HDPE conduits buried underground, typically 1–1. 2 meters (3–4 feet) deep to prevent accidental damage. Conduits may include innerducts and pulling tapes to facilitate cable installation and future upgrades.

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Conductive marker tape is often buried above the conduit to aid in locating cables during maintenance. Direct Burial: Cables are buried directly in the soil without conduit. While this method can reduce initial costs, it exposes cables to soil movement, accidental excavation, and environmental stress, making armored cables essential for protection.

Factory-

Specific Considerations

Routing: Plan cable paths to avoid heavy machinery, high-traffic areas, and potential sources of electromagnetic interference. Protection: Use armored or reinforced cables in areas with high mechanical stress or rodent activity. Maintenance: Conduit systems allow easier replacement or expansion of fiber networks without extensive excavation.

Testing: After installation, perform optical time-domain reflectometer (OTDR) testing to ensure signal integrity and detect potential faults.

Benefits

Installing underground fiber optic cables in a factory ensures high-speed, low-latency communication for automation systems, IoT devices, and industrial control networks. It also provides long-term durability, reduces the risk of accidental damage, and supports future network expansion. By carefully selecting cable types, installation methods, and protective measures, factories can maintain a reliable and scalable fiber optic network that supports modern industrial operations.

Article Content

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ADSS Cable Manufacturer

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