Smart City Butterfly-shaped Fiber Optic Cable Intelligent Type

Overview

Butterfly FTTH drop cable incorporates the indoor soft cable and the self-supporting cable characteristics.

Key Takeaways

Butterfly-shaped fiber optic cables are compact, bend-resistant, and ideal for indoor smart city networks, supporting FTTH and high-bandwidth municipal applications.Design and Structure

Butterfly-shaped fiber optic cables feature a flat, dual-ribbon design with the optical fibers positioned at the center and flanked by two parallel non-metallic strength members, typically made of Fiber Reinforced Plastic (FRP) for enhanced durability and compression resistance . This design allows the cable to be lightweight, flexible, and easy to install in indoor environments such as riser spaces, walls, or conduits . The cable is usually finished with a low-smoke zero-halogen (LSZH) flame-retardant sheath, ensuring safety and environmental compliance .

Technical Features
• Bend-insensitive optical fibers for high bandwidth and improved transmission performance .

• Flame-retardant and LSZH jacket for indoor safety .

• Self-supporting and soft cable characteristics, combining indoor flexibility with tensile strength for easy deployment .

• Simple structure and easy stripping, facilitating splicing and maintenance .

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• Optional anti-rodent, waterproof, or thunder-proof features for specialized indoor applications .
Applications in Smart Cities

Butterfly-shaped fiber optic cables are widely used in FTTH (Fiber-to-the-Home) networks, intelligent buildings, digital districts, campus networks, and local area networks (LANs) . In smart city infrastructure, they support:

• High-speed internet, video, and voice services for residential and commercial buildings .

• Municipal utilities and intelligent traffic control systems, providing low-latency, real-time connections for adaptive signal systems and smart grids .

• Secure data transmission between offices, schools, and public institutions in controlled indoor environments .
Installation and Maintenance Advantages
• Fusion or mechanical splicing allows low-loss, reliable connections .

• Tool-free modular systems and systematic labeling simplify installation and maintenance in municipal technical rooms .

• Scalable and modular design supports gradual expansion from 6 to 288 fibers, ensuring future-proof smart city networking .

• Indoor and protected outdoor suitability, with operating temperatures from 0°C to +60°C for reliable service .
Summary

Butterfly-shaped fiber optic cables combine compact design, high durability, and intelligent features to meet the growing demands of smart city networks. They are particularly suited for FTTH deployments, indoor municipal infrastructures, and high-bandwidth applications, providing a safe, flexible, and future-proof solution for modern urban digital services .

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They are called butterfly-shaped due to their unique design, which features a flat shape with

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Briticom ® offers Armoured Butterfly-Shaped Cable as well as a wide range of indoor and outdoor fibre optic distribution, patching

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Butterfly-shaped optical fiber cables are a popular type of fiber optic cable that is commonly

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Vision of a smart sustainable city incorporating a dense fiber-optic network (yellow lines) enabling high-speed

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