Butterfly-shaped optical cable type



Overview

Four -end connection methods of butterfly -shaped Butterfly-shaped optical fiber cables, also known as ribbon fiber optic cables, are a type of fiber optic.

Key Takeaways

Butterfly-shaped optical cables are flat, wing-like fiber optic cables designed for easy installation, bend resistance, and reliable data transmission in indoor and outdoor environments. Design and StructureButterfly-shaped optical cables get their name from their distinctive flat, wing-like cross-section, with the optical fiber positioned at the center and two parallel strength members on either side, typically made of Fiber Reinforced Plastic (FRP) for non-metallic durability and electromagnetic immunity. Some outdoor variants include a steel wire messenger for aerial self-supporting runs.

This geometry allows the cable to bend easily in the flat plane while resisting sharp kinks when bent edge-on, protecting the fiber core.

Fiber Type

These cables almost universally use bend-insensitive single-mode fibers, conforming to ITU-T G. 657 standards. Subtypes like G.

657. A1 are suitable for residential and light commercial use, tolerating 10 mm bend radii and fully compatible with legacy G. 652.

D infrastructure. G. 657.

A2 is recommended for routing through conduits with tight bends or irregular surfaces.

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Variants

Indoor Butterfly Cables (GJXH): Lightweight, flexible, with FRP strength members and LSZH (Low Smoke Zero Halogen) sheath. Fiber counts range from 1–4 cores for single-unit residential use up to 12 cores for multi-tenant buildings.

Outdoor Self-

Supporting Butterfly Cables (GJYXFCH/GJXFH): Include a steel messenger wire, PE or dual-layer LSZH/PE jacket for UV and moisture resistance, suitable for aerial drops up to 50 meters. Armoured Butterfly Cables: Designed for FTTH and high-density applications, offering additional protection and durability for indoor and outdoor use.

Applications

Butterfly cables are widely used in: Telecommunications networks for FTTH and CATV connections. Data centers for high-density, space-efficient fiber routing. Industrial automation and medical equipment, where reliability and precision are critical.

Audio-visual systems, providing low-loss, high-quality signal transmission.

Installation and Splicing

Butterfly cables can be connected using: Fusion splicing: Produces low-loss, permanent connections by welding fiber ends with heat. Mechanical splicing: Uses connectors to align and hold fiber ends without heat, suitable for temporary or field connections.

Advantages

Bend resistance reduces signal loss and fiber damage. Directional flexibility simplifies routing along walls, ceilings, and conduits. Durability with FRP or steel reinforcement for compression and tensile strength.

Environmental protection with LSZH or PE jackets for indoor/outdoor use. Butterfly-shaped optical cables combine compact design, flexibility, and robust performance, making them ideal for modern high-speed fiber networks in both residential and commercial deployments.

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Article Content

Four -end connection methods of butterfly -shaped

Butterfly-shaped optical fiber cables, also known as ribbon fiber optic cables, are a type of fiber optic cable that contains multiple fibers within a single

Origin and Classification of Butterfly Optical Cables

Butterfly optical cables are named for their cross-sectional shape resembling a butterfly. They feature advantages such as small outer diameter, light weight, low cost, reliable performance, and easy

Butterfly cables, Butterfly fiber optic cables

Butterfly Fiber optic cables are specifically designed for use in indoor environments, often in confined spaces such as inside buildings or data centers. They are named for their flat, strip-like shape, which

FTTH Butterfly Optic Cables: Practical Design, Installation, and ...

FTTH Butterfly Optic Cables, also known as flat drop fiber cables, feature a compact flat profile with optical fibers placed at the center and reinforced by parallel strength members on both

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The invention relates to a butterfly-shaped optical cable which comprises a sheath with a rectangular cross section, wherein an optical fiber unit is coated in the middle of the sheath,...

Types of butterfly-shaped optical fiber cables include

Butterfly-shaped optical fiber cables are a popular type of fiber optic cable that is commonly used for data transmission in telecommunication networks.

Combined butterfly-shaped optical cable

The invention discloses a combined butterfly-shaped optical cable, relates to optical cables, and solves the problems that a rubber-insulated optical cable cannot be utilized indoor...

Butterfly Optic Cable Specifications | PDF | Attenuation

This document specifies the construction, materials, performance standards, and testing requirements for butterfly optic cables with 1-4 fibers. The cable types include GJXH, GJXFH, GJYXCH, and

GJYXFHS Pipeline Butterfly-shaped Introduction Optical Cable

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Ideal for connecting optical networks within residential, commercial, and industrial buildings. Specifically designed for last-mile fiber deployment to individual homes and apartments. Optimized for placement

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Four -end connection methods of butterfly -shaped optical fiber optic ...

Butterfly-shaped optical fiber optic cables are a type of fiber optic cable that is widely used in communication networks. They are called butterfly-shaped because they have two parallel

The transmission distance of the butterfly -shaped

Introduction:The butterfly-shaped optical cable is a type of fiber optic cable that is widely used in telecommunications networks, data centers, and

5 Best Gaming Mice for Butterfly Clicking (2026)

The Logitech G502 Hero is one of the most popular gaming mice ever made, and for good reason. Its mechanical spring-tensioned primary buttons deliver a crisp, clean click feel that

Four -end connection methods of butterfly -shaped optical fiber optic ...

Butterfly-shaped optical fiber cables are a popular type of fiber optic cable that is commonly used for data transmission in telecommunication networks. They are called butterfly

Indoor butterfly covered optical cable: from definition to application ...

Indoor butterfly-shaped leather optical cable, whose cross-section is shaped like a butterfly, is a user access optical cable designed for indoor environments. It has the characteristics of indoor

How do FTTH butterfly optic cables handle mechanical stress and how ...

FTTH butterfly optic cables are specially engineered to facilitate high-speed internet connections directly to residential homes. Their name stems from the distinctive "butterfly" shape,

GJYXFHS Pipeline Butterfly-shaped Introduction Optical Cable

Pipeline Butterfly-shaped Introduction Optical Cable is engineered for efficient conduit entry of optical cables, offering robust performance and durability.

Butterfly leather line optical cable

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The Butterfly leather line optical cable, also known as a butterfly ribbon cable, is a type of fiber optic cable that offers several advantages over traditional optical cables. In this response, I will

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