

How to connect a 2-core fiber optic cable junction box



Overview

How to connect a 2-core fiber optic cable junction box In this guide, we'll walk you through the entire process of preparing fiber optic cable for splicing.

Key Takeaways

You can connect a two-core fiber optic cable to a junction box using either fusion splicing, mechanical splicing, or field-fit connectors, depending on your equipment and skill level.

- **Safety First:** Wear gloves and safety glasses to protect against glass shards from the fiber optic cable .
- **Tools Needed:** Fiber optic stripper, cleaver, cleaning supplies (isopropyl alcohol, lint-free wipes), fusion splicer or mechanical splice kit, and protective sleeves .
- **Cable Preparation:** Strip the outer jacket, buffer, and cladding carefully to expose the fiber cores without damaging them . Clean the fibers thoroughly to remove dust or oils.

Connection Methods

1. Fusion Splicing

- Align the two fiber cores in a fusion splicer.
- The splicer uses heat to fuse the fibers together, creating a permanent, low-loss connection.

- After splicing, place a protective sleeve over the joint to secure it .
 - This method is ideal for long-distance or high-performance networks due to minimal signal loss .
- ## 2. Mechanical Splicing

- Align the fiber ends in a mechanical splice holder.
 - Use a mechanical splice connector to hold the fibers in place.
 - This method is less expensive and faster than fusion splicing but may have slightly higher insertion loss .
- ## 3. Field-Fit Connectors

- Attach connectors directly to the fiber ends using a field-fit connector kit.
- Insert the connectors into the junction box ports.
- This method is simpler and requires less specialized equipment, but may introduce additional signal loss compared to splicing .

Installation in the Junction Box

- Route the fibers carefully to avoid sharp bends; maintain the minimum bend radius.
- Secure the fibers using cable management clips or Velcro straps to prevent tension or loops .
- Insert the connectors or spliced fibers into the junction box ports, ensuring proper alignment and locking.
- Test the connection using an Optical Time Domain Reflectometer (OTDR) or visual fault locator to verify signal integrity .

Tips

- For pre-terminated cables, you can use a coupler inside the junction box to join fibers without splicing .
- Plan cable lengths carefully to avoid excess slack; coil any extra fiber neatly inside the box.
- Follow manufacturer guidelines for both the junction box and fiber connectors to ensure long-term reliability . By following these steps, you can achieve a secure, low-loss connection of a two-core fiber optic cable to a junction box suitable for both indoor and outdoor installations.

Article Content

How to connect a 2-core fiber optic cable junction box

In this guide, we'll walk you through the entire process of preparing fiber optic cable for splicing and termination to fiber connectors.

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Remove Cover from EXJB. Push wires through Cable Gland and hole in housing. Screw Cable Gland into housing and tighten.

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Fiber Optic Cable - Method of Joining and Fusion Splicing

The fiber optic cables have a glass core covered with cladding, coatings, and, typically, Kevlar membranes to add

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