

# Adding a board to the optical fiber cable



## Overview

How To: Install Fiber Optic Cable for Success – In this comprehensive guide, we'll walk through the best practices for installing various Industrial Fiber.

## Key Takeaways

To connect a board to an optical fiber cable, carefully insert the fiber into the board's transmitter or receiver module, secure it with the locking mechanism, and ensure proper alignment to maintain signal integrity. Choosing the Right Fiber and Board

Select a fiber type compatible with your board. For development or hobbyist boards, PMMA plastic fiber is recommended because it is inexpensive, flexible, and easy to cut without polishing, while glass fiber is more fragile and requires careful handling . Ensure the board's optical module (transmitter/receiver) matches the fiber diameter, typically around 2.2mm for plastic fibers .

### Preparing the Fiber

- Cut the fiber perpendicular to the end to create a flat optical surface.
- Do not strip the jacket unless the module requires it; most plastic fiber modules accept the fiber with the jacket intact .
- Avoid bending the fiber sharply; maintain gentle curves to prevent signal loss .

### Inserting the Fiber into the Board

- Loosen the locking nut on the board's optical module.
- Push the fiber end fully into the module until it seats against the internal optical interface.

- Tighten the locking nut finger-tight to prevent the fiber from being pulled out, but avoid overtightening to prevent damage to the plastic threads . For development boards like the Serial Fiber Modem or Fiber Duplex Breakout, you can create a simple loopback by connecting the transmitter and receiver on the same board to test the link before connecting to another board .

#### Handling and Installation Tips

- Keep fiber ends clean; even a few seconds of exposure to dust can degrade performance .
- Avoid placing fiber under heavy cables or sharp edges, as lateral forces can break the fiber .
- For longer runs or multiple boards, ensure proper routing and secure the fiber in trays or conduits to prevent stress .

#### Testing the Connection

Once the fiber is connected, open a serial terminal or use the board's communication software to verify data transmission. For longer links, check for signal loss or errors and adjust alignment if necessary . By following these steps, you can safely and effectively add a board to an optical fiber cable while maintaining signal quality and protecting the fiber from damage.

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So to get fiber directly into your pc you would first need to link up a fiber cable from your pc to the nearby accesspoint to the rest of the

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