

Connecting the fiber optic access switch to the AP



Overview

The key to connecting fiber optic cable to an Ethernet switch is to identify what type of switch you have.

Key Takeaways

To connect a fiber optic access switch to an AP, use SFP modules or a fiber media converter to bridge the fiber link to the AP's Ethernet interface, ensuring proper power delivery via PoE or DC adapter.

Step-by-Step Connection Process

1. Determine AP and Switch Interfaces

- Check if your AP has a built-in SFP/fiber port or only an Ethernet (RJ45) port ().
 - Ensure the fiber switch has compatible SFP ports for the fiber optic connection.
- #### 2. Use a Fiber Media Converter (if needed)
- If the AP only has an Ethernet port, install a fiber media converter near the AP to convert optical signals to electrical Ethernet signals ().
 - Insert the SFP module into the media converter and connect the pre-terminated fiber optic cable from the switch to the SFP module ().
 - Mount the media converter securely on a wall or DIN rail, following polarity and power instructions ().
- #### 3. Connect the AP to the Media Converter

- Use a standard Ethernet cable to connect the media converter's Ethernet output to the AP's Ethernet port.
- If the AP supports PoE, connect the media converter to a PoE injector or switch port capable of delivering sufficient power ().
- Alternatively, use a DC adapter to power the AP directly if PoE is not available (). 4. Power Up and Verify
- Power on the media converter and AP.
- Check LED indicators on both devices to confirm proper link and power status ().
- Test connectivity and data transfer speeds to ensure the AP is receiving the expected bandwidth. 5. Considerations for Long-Distance or High-Bandwidth Deployments
- Fiber allows transmission over several kilometers, far exceeding the 100m limit of copper Ethernet ().
- Use BiDi SFP+ modules for single-fiber transmission if needed, supporting up to 10Gbps for high-performance APs like Wi-Fi 7 ().
- Ensure minimal tension on fiber connectors to prevent damage and maintain signal integrity (). 6. Safety and Compliance
- Fiber provides electronic isolation, protecting the AP from surges or ground loops ().
- Follow manufacturer guidelines for supported antennas and power ratings to maintain compliance and optimal performance (). By following these steps, you can reliably connect a fiber optic access switch to an AP, ensuring both high-speed data transmission and proper power delivery for stable wireless coverage.

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