

How to connect fiber optic cable to a switch in the fire control room



Overview

How do you connect a switch to fibre?

This guide will walk you through the process of connecting a switch to a fiber optic network, covering the necessary.

Key Takeaways

To connect a fiber optic cable to a switch in a fire control room, use compatible fiber transceivers, clean and align the connectors, and configure the switch ports for proper fiber communication.

Step 1: Identify the Switch and Fiber Ports

Determine whether your fire alarm Ethernet switch (FAES) has built-in fiber ports or requires SFP (Small Form-factor Pluggable) transceivers. Many FAES models, such as the 4190-6054 and 4190-6055, feature dedicated fiber ports for connecting to other switches or Simplex Incident Manager workstations . If the switch lacks fiber ports, you will need to insert compatible SFP modules into the available slots .

Step 2: Choose the Correct Fiber Type and Connectors

Select the appropriate fiber optic cable based on distance and network requirements:

- Multi-mode fiber (MMF) is suitable for short distances (up to 500 meters) and is cost-effective .



- Single-mode fiber (SMF) is used for longer distances (kilometers) but is more expensive. Common connector types include LC, SC, ST, or MTP/MPO, with LC being widely used in FAES installations . Ensure the fiber cable is pre-terminated to save installation time and reduce errors.

Step 3: Prepare and Clean the Fiber

Before connecting, inspect the fiber ends and switch ports for dust or debris. Use fiber cleaning tools to prevent signal loss or damage . Proper cleaning ensures low insertion loss and high return loss.

Step 4: Connect the Fiber

- Insert the fiber connectors into the corresponding ports on the switch or SFP module.
- Ensure transmit (TX) on one end connects to receive (RX) on the other to maintain proper signal flow .
- Secure the cable to prevent bending beyond the minimum bend radius, which can damage the fiber.

Step 5: Configure the Switch

- Access the switch management interface (web GUI or CLI) and configure the fiber ports for the correct speed, duplex, and flow control settings .
- If using multiple fibers, consider link aggregation to increase bandwidth and redundancy.
- Verify connectivity using optical power meters or visual fault locators to ensure the signal is transmitting correctly .

Step 6: Test and Monitor

- Confirm that the FAES or fire control system recognizes the connection.
- Monitor the link for errors or signal degradation.
- Ensure the fiber connection complies with fire system networking standards and does not interfere with critical alarm communications . By following these steps, you can safely and effectively connect a fiber optic cable to a switch in a fire control room, ensuring reliable communication between fire alarm Ethernet switches and management systems.

Article Content

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If the Ethernet switch will be providing the network connection to the fiber optic line, plug the Ethernet cable into one of the output

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