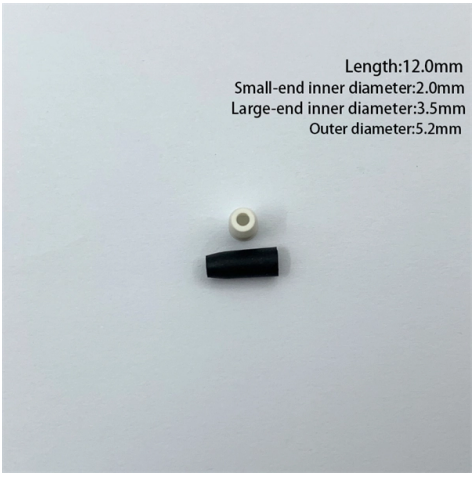
Switch with Fiber Optic Access



Overview

Fiber Optic Ethernet Switches | McMaster-CarrChoose from our selection of fiber optic ethernet switches, including DIN-rail mount ethernet switches, light.

Key Takeaways

Fiber optic access switches bridge end-user devices to high-speed networks, supporting long-distance, high-bandwidth, and managed connectivity for modern enterprise and service provider networks.

Overview

Fiber optic access switches are network devices that connect end-user devices, such as computers, IP phones, and cameras, to the broader network infrastructure using fiber optic technology. They are essential for FTTX (Fiber to the X) deployments, Metro Ethernet networks, and environments requiring high-speed, reliable data transmission over long distances. These switches often support both 1Gbps and 10Gbps uplinks and can have up to 48 ports, depending on the model.

Key Features

Managed vs. Unmanaged: Managed switches allow configuration of VLANs, QoS, port security, and multicast management, while unmanaged switches provide plug-and-play connectivity without advanced configuration. Layer 2 and L2+ Capabilities: Many fiber access switches operate at Layer 2, supporting features like IGMP snooping, MVR, fast leave, filtering, and rate limiting.

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Some models also support static routing for L2+ functionality. Fiber and Ethernet Integration: These switches often include both fiber ports (SFP/SFP+ or SFP28) and standard Ethernet ports, enabling seamless integration between fiber optic and copper-based networks. Advanced Network Management: Features such as automatic firmware upgrades, redundant power modules, loop prevention, and IPv4/IPv6 dual-stack support enhance reliability and reduce maintenance costs.

Triple-

Play Support: Designed to handle data, VoIP, and IPTV services simultaneously, ensuring high-quality multimedia delivery.

Applications

Service Providers: Deploying FTTX networks to deliver broadband services to homes and businesses. Enterprises: Connecting multiple buildings or remote offices with high-speed fiber links.

Long-

Distance Connectivity: Fiber access switches enable minimal signal loss over extended distances, ideal for campus networks or multi-site installations. Example ProductsCTS FOS-Series: Managed Layer 2 switches with 1Gbps/10Gbps uplinks, up to 48 ports, supporting triple-play services and advanced multicast and QoS features. Versitron Fiber Optic Switches: Offer 4–52 ports, managed or unmanaged, with PoE options and SFP support for Ethernet-to-fiber conversion.

Axis D8308 Fiber Aggregation Switch: Equipped with SFP+ and SFP28 ports, ideal for connecting multiple devices over long distances with VLAN, QoS, and port security support. Fiber Media Converters: Smaller switches with 2 fiber ports and 8 UTP LAN ports, bridging fiber and copper networks for businesses needing simple integration.

Conclusion

Fiber optic access switches are critical for modern high-speed networks, providing reliable, scalable, and manageable connectivity between end-user devices and the core network. Choosing the right switch depends on required port density, uplink speed, management features, and the specific network topology, whether for enterprise, service provider, or long-distance fiber deployments.

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