

Non-modular fiber optic switches



Article Overview

Non-modular fiber optic switches are compact, integrated devices that route optical signals between fibers without requiring modular expansion, often using MEMS mirrors for fast, reliable switching.

Overview

Non-modular fiber optic switches are designed as self-contained units that do not rely on modular components for expansion. They typically feature a fixed number of input and output ports, such as $1 \times N$, $2 \times N$, or $N \times M$ configurations, and are often based on MEMS (Micro-Electro-Mechanical Systems) technology, which uses tiny mirrors to redirect light between fibers. These switches are non-latching, bidirectional, and can operate over a broad wavelength range, commonly from 1250 nm to 1670 nm for telecom applications.

Key Features

- Low Insertion Loss: Typically 0.4–2.5 dB, ensuring minimal signal degradation.
- High Crosstalk Isolation: Often exceeding 50–60 dB, reducing interference between channels.
- Fast Switching: Response times range from 0.5 ms to 10 ms depending on the design.
- Compact and Rugged: Suitable for direct PCB mounting or integration into optical instruments.
- Interfaces: Control via UART, I2C/SMBus, parallel, or optional Ethernet interfaces.
- Fiber Compatibility: Supports single-mode (SM), multi-mode (MM), and polarizatio...

Article Content

Jul 03, 2026

SFP Network Switches | SFP Managed Port Switches

SFP network switches offer an "All-Fiber" configuration. SFP fiber switches extend the fiber optic network to multiple remote locations

Feb 08, 2026

Fiber-optic Switches

Fiber-optic switches can be useful for general testing purposes in fiber optics. For example, instead of

Jun 11, 2026

SM Switch Nano Speed 1x2

The NanoSpeed™ Series 1x2 solid-state fiber optic switch connects optical channels by redirecting an incoming optical signal into a

Sep 07, 2025

Fiber Optic Network Switches

Buy fiber network switches to extend ethernet network over fiber. Order Versitron high speed fiber optic

Sep 09, 2025

Thorlabs · MEMS Fiber-Optic Switches

These MEMS single mode switches are designed to be easily integrated into optical systems. The highly

Jun 21, 2026

Fiber Optic Switch & Optical Switch Types

Top-quality Fiber Optic Switches and Optical Switches from PHXFIBER, a leading manufacturer offering

Jun 23, 2026

Multi-mode optical fiber

Multi-mode optical fiber is a type of optical fiber mostly used for communication over short distances, such as within a building or on a

May 10, 2026

A modular architecture for a fully non-blocking silicon photonic switch ...

In the quest to realize scalable optical switch fabrics using various photonic technologies, the primary considerations have focused

Sep 24, 2025

QuickSwitch fiber optic switches

QuickSwitch® Remotely Controllable Fiber Optic Switches to support such applications as Commercial Networks, Industrial

Nov 16, 2025

Unmanaged Switches

Unmanaged fiber optic switches are network switches that operate without user intervention or configuration. They automatically

May 26, 2026

A Review of Silicon-Based Integrated Optical Switches

Silicon-based integrated optical switches, which are an essential part of optical integrated circuits that can leverage the

Apr 26, 2026

Fiber Optic Switches

Sercalo Microtechnology's SC type co-axial 1xN and 2xN fiber optic switches are based on a design where a single MEMS mirror

Aug 03, 2025

Opto-mechanical Optical Switches, Fiber Optic Switch

Opto-mechanical optical switches (single-mode or multimode fiber optic switch) are passive components that selectively transmit,

Apr 19, 2026

Fiber-optic Switches

Fiber-optic Switches Author: the photonics expert Dr. Rüdiger Paschotta (RP) Expert Buyer's Guide for Fiber-optic Switches

Oct 06, 2025

Multimode Fiber Optic Switches

Multimode fiber optic switches operate by manipulating the path of light within multimode fibers. These switches utilize various

Jan 15, 2026

Optical Switches

Optical Switches We lead the industry in optical switch technology, delivering the lowest insertion loss (0.2 dB), fastest switching

Jan 03, 2026

Ethernet Switches

Moxa provides a wide range of industrial Ethernet switches that feature industrial-grade reliability, network redundancy, strengthened

Jun 16, 2026

Network Switches

Built for extreme environments, our IP66/IP67-rated industrial switches offer robust protection from dust and liquids, provide PoE,

Apr 07, 2026

Small Form-factor Pluggable

Small Form-factor Pluggable (SFP) is a compact, hot-pluggable network interface module format used for both telecommunication

Dec 27, 2025

MEMS Fiber-Optic Switches

These component-style fiber-optic MEMS optical switches utilize dual-axes tilting MEMS mirrors, which

Mar 05, 2026

Unmanaged 4-Port Fiber Optic Ethernet Switch

Supporting distances up to 80km, the TC3705 10/100Base-T Ethernet Fiber Optic Switch provides one multimode or

Jan 15, 2026

Network Switches | Copper, Fiber Optic, and Custom Switches

Our Network Switch line includes copper and fiber optic switches, COTS or custom switches, designed for use in commercial,

Aug 08, 2025

Rackmount Optical Switch (Rack Mounted Fiber Optic

A fiber optic switch represents the single most dynamic element in an optical network which traditionally

Oct 25, 2025

Modular architecture for fully non-blocking silicon photonic switch fabric

Calculated total power penalty versus switch radix for the proposed systems, three variations of it and other

Sep 06, 2025

Optical Switches

The fastest, smallest, most reliable optical switches in the industry. Used in medical devices, undersea

May 17, 2026

Unmanaged Network Switches | Unmanaged Gigabit Switches

Unmanaged Switches Unmanaged switches are basic “plug-and-play” style devices that allow a user to connect multiple Ethernet

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://khanimamboguesthouse.co.za>

Email: sales@khanimamboguesthouse.co.za

Phone: +27 64 852 1973

Address: Unit 7, Greenway Business Park, 8 Innovation Drive, Centurion, 0157, South Africa

This document is for informational purposes only. Specifications subject to change without notice.

